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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: _		Examiner # : Serial Number:	Date:
Art Unit:	Phone Number 30	Serial Number:	
Mail Box and Bldg/Room	Location:	Results Format Preferred (circle):	PAPER DISK E-MAIL
If more than one search	is submitted, please p	prioritize searches in order of ne	ed.
include the elected species or si	ructures, keywords, synonyr any terms that may have a s	describe as specifically as possible the subjums, acronyms, and registry numbers, and copecial meaning. Give examples or relevant aims, and abstract.	whine with the concent or
Title of Invention:			
Earliest Priority Filing Dat	e:	·	
For Sequence Searches Only Pa appropriate serial number.	lease include all pertinent info	rmation (parent, child, divisional, or issued pat	ent numbers) along with the
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Jan Delavel
Reference Librarian
Biotechnology & Chemical Library
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Searcher:	NA Sequence (#)	STN
Searcher Phone #: 4458	AA Sequence (#)	Dialog
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; Entered [jdelaval 10-Jun-02 5:57] 09-251073 e11dv1

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OM protein - protein search, using sw model

Run on:

June 10, 2002, 06:28:11 ; Search time 14.16 Seconds (without alignments) 33.930 Million cell updates/sec

Title: Perfect score: Sequence: Scoring table: 09-251073 23 1 eildv 5

BLOSUM62 Gapop 10.0 , Gapext 0.5

Searched:

283138 seqs, 96089334 residues

Total number of hits satisfying chosen parameters: 0

Minimum DB seq length: 5
Maximum DB seq length: 5

Post-processing: Minimum Match 100% Maximum Match 100% Listing first 100 summaries

Database :

PIR_71:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No. esult Query
No. Score Match Length DB ij

Description

No matches found

Search completed: June 10, 2002, 06:28:47 Job time: 36 sec

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OM protein . protein search, using sw model

Run on:

June 10, 2002, 06:29:26 ; Search time 11.79 Seconds (without alignments)
16.421 Million cell updates/sec

Title: Perfect score: Sequence: 09-251073 23 1 eildv 5

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

Searched: 105224 seqs, 38719550 residues

Total number of hits satisfying chosen parameters:

0

Minimum DB seq length: 5 Maximum DB seq length: 5

Post-processing: Minimum Match 100% Waximum Match 100% Listing first 100 summaries

Database :

SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result Query
No. Score Match Length DB ID Description

No matches found

Search completed: June 10, 2002, 06:33:29 Job time: 243 sec

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| '\cgn2_6/ptodata/1/paa/PCT_NEW_COMB.pep:*
| '\cgn2_6/ptodata/1/paa/US06_NEW_COMB.pep:*
| '\cgn2_6/ptodata/1/paa/US07_NEW_COMB.pep:*
| '\cgn2_6/ptodata/1/paa/US08_NEW_COMB.pep:*
| '\cgn2_6/ptodata/1/paa/US08_NEW_COMB.pep:*
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Copyright (c) 1993 - 2000 Compugen Ltd.
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Search completed: June 10, 2002, 06:31:29 Job time: 198 sec

No matches found

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22.808 Million cell updates/sec
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AAW25192
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AAY69619
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AAB50876
AAB59135
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                                                                                                   Alpha-4Beta-1 inte
LDV-peptide capabl
Peptide recognised
Integrin ligand di
                                                                                                                                                                             Description
                            VLA-4 inhibitor pe
Fibronectin VLA-4
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ALIGNMENTS

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RESULT
AAR95719
  CC surface of endothelial cells that line the interior wall of capillaries. CC surface of endothelial cells that line the interior wall of capillaries. CC VCAM-1 recognises and binds to the integrin alpha-4beta-1 (IA4B1; or CC VCAM-1 recognises and binds to the integrin alpha-4beta-1 (IA4B1; or CC VCAM-4 for very late antigen-4), a heterodimeric protein present on the surface of certain white blood cells. Binding of IA4B1 to VCAM-1 allows CC white blood cells to adhere to the capillary wall in areas where the CL tissue surrounding the capillary has been infected or damaged. Sometimes CC this white blood cell migration can become uncontrolled, with white blood cells flooding to the scene, caussing widespread tissue damage. CC this white blooking this process may be beneficial as therapeutic capents. IA4B1 also recognises, the extracellular matrix glycoprotein fibronectin. Three distinct IA4B1-binding sites have been identified within fibronectin. One site is found in the Hepli region and is cepressed in all isoforms; two others (CS1 and CS5) are present in the CC alternatively spliced type III connecting segments. CS1 has the higher CC affinity for IA4B1 and contains the tripeptide LDV as its minimal active site. Paptides AAR95704-805 are modeled after a portion of the CS1 ceptide that include the LDV domain presented in such a way by its novel CC flanking sequence to produce a potent inhibitor of IA4B1 binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tissue damage; injury; fibronectin; extracellular matrix glycoprotein; CS1; CS5; H1; LDV; active site.
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Column 21-22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New peptide(s) based on the LDV domain of fibronectin - used for inhibiting binding of alpha-4, beta-1 integrin to VCAM-1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1996-221274/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Beck PJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-JUL-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-APR-1996.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alpha-4Beta-1 integrin binding inhibitory peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fibronectin or invasin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (TEXA-) TEXAS BIOTECHNOLOGY CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-JUL-1994;
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Score 23; Pred. No.

6.4e+05; DB 17;

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RESULT
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Endoscopic irrigation solns. - adhesion molecules
                          Peptide recognised
                                                                               08-MAY-1998
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                                                                                                                                  AAW46318
                                                                                                                                                                                  AAW46318 standard; Protein;
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binding; bladder
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nes 5; Conservative
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resection; cancer; neoplasia.
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der irrigation; tumour removal; endoscopic oper
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6.4e+05;
hes 0;
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Query Match
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Them 5; Conserve
                                                                                      The present sequence is a linear stretch of amino acids (present in fibronectin) recognised by the integrin alpha/betal. Integrins are cell surface receptors. The penton base protein (one of the coat proteins) of adenoviruses binds to integrins. The integrins not only provide a binding site for the adenoviral penton base protein, but also mediate cellular adhesion to the extracellular matrix molecules. The specification describes a method of introducing an adenovirus into a cell in vitro having a particular cell surface binding site. The adenovirus is contacted with a bispecific molecule comprising a component that selectively binds a binding domain of the penton base protein of the adenovirus and a second component that selectively binds the cell surface binding site. A complex of the adenovirus and the cell is contacted with it to allow entry of the adenovirus into the cell. The methods can be used for research and the
                                                                                   Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fibrinogen; integrin; alpha-IID-beta3; cell surface receptor; penton base protein; coat proteins; adenovirus; binding site; cellular adhesion; extracellular matrix molecule; binding dom cell surface binding site; bispecific molecule; gene therapy.
                                                                                                                                                                                                                                                                                                                                                  Claim 27; Column
                                                                                                                                                                                                                                                                                                                                                                             engineering and gene therapy
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                Conservative
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fibrinogen; glycoprotein IIb-IIIa; angina; myocardial infarction; osteoclast; osteoporosis; angiogenesis; cancer; diabetic retinopa psoriasis; tumour; atherosclerosis; inflammatory bowel disease; a

retinopathy;

bone;

Integrin-ligand; dissociator; disaggregation; platelet thrombus; stroke

Integrin ligand dissociator (ILD) peptide

Synthetic organ

transplant

rejection;

arthritis;

ILD.

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RESULT
AAY80488
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CC an existing platelet thrombus in a blood vessel, where the platelet CC thrombus may form an occlusion of a blood vessel, in a subject comprises CC administering a compound which dissociates fibrinogen bound to a first CC site on platelet glycoprotein IIb-IIIa, by binding to a second CC platelet thrombus. The method is used to treat humans with unstable CC platelet thrombus. The method is used to treat humans with unstable CC used to enact de-adhesion of osteoclasts from the bone surface to halt Cc bone loss in a patient with osteoporosti. The methods can be used to enact deadhesion of osteoporosti. The methods can also be used CC pathologic condition associated with angiogenesis, e.g. cancer, diabetic cretinopathy, psoriasis. The methods can also be used to treat tumours, CC atherosclerosis, inflammatory conditions, e.g. arthritis, inflammatory bowel disease, or organ transplant rejection, and asthma. The methods can be used for the dissolution of pre-formed platelet aggregates, which is a CC departure from the current strategy of treatment prior to formation of conscilator (ILD) that can be used in the method of the invention.
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Best Local
                                                                                          Bone regenerative; osteopathic; osseous tissue; reconstitution; scaffold matrix; bone formation promoter; bone resorption inhibitor; cell adhesion; osteoblast; osteoclast; bone defect; fracture.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                fibrinogen from glycoprotein IIb-IIIa. This dissociation is caused by the binding of an integrin-ligand dissociator at ligand binding site I of glycoprotein IIb-IIIa. The invention provides a method of disaggregating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 10; 39pp; English.
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03-FEB-2000
                                                                                                                                                           Cell adhesion peptide #23.
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                                                                                                                                                                                                                             AAY80488;
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| 1 eildv 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention relates to integrin ligand dissociators. Disaggregation of existing platelet thrombus in a blood vessel is due to dissociation o
                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
5; Conserv
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thes 0;
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Matches 5
                                                                                                                                                          metalloprotease inhibitors. The peptides AAY80466-Y80492 are claimed examples of cell adhesion peptides used in the system of the invention. The system is used to replace, remodel or correct bone defects, e.g. fractures, fissures or bone mass loss. Incorporation of (I) into the scaffold results in rapid seeding by osteoblasts and the development of an organic matrix, i.e. the preformed scaffold replaces the rate-determining step of extracellular matrix formation. The scaffold can be designed to have a predetermined resorption/degradation rate, and may include regulatory compounds for specific cell types.
                                                                                                                                                                                                                                                                                                                       (II) inhibits proteolysis (specifically by plasmin) of extracellular matrix. (I) is preferably selected from: selectin or selectin binding fragments, proteins and peptides that facilitate cell adhesion, plasminogen activator inhibitors, protease inhibitors and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                System for reconstructing osseous tissue, useful e.g. for fractures, comprises scaffold containing promoter of bone inhibitor of bone resorption \,
                                                                                                                                                                                                                                                                                                                                                                                                    bone formation and a component that decreases bone resorption (II). (I) induces migration and adhesion of osteoblasts and osteoclasts and
                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to a novel system for reconstitution of osseous tissue comprising a scaffold carrying a compound (I) that promotes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 14; Page 32;
                                                                                                                            Sequence
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                                    Similarity
5; Conserv
                                      Conservative
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                                  ; Score 23; DB
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0; Mismatches
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                                                     6.4e+05;
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10-JUL-1998;

98US-0113689 98WO-US26605

15-DEC-1998;

(CYTE-) CYTEL CORP

20-JAN-2000

WO200002903-A1 Mammalia inhibitor; Fibronectin;

leukocyte;

peptidomimetic; autoimmune disease; inflammatory disorder.

FN; CS-1; endothelial cell; VLA-4 integrin; alpha-4-beta-1;

inflammatory cell; inflammation; cell

Fibronectin CS1-derived peptide #33.

22-MAY-2000 (first entry)

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RRESULT

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ANY 60 ANY
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                                                                                                                                                                                                                         06-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                    LDV peptide: VIA-4 inhibitor; very late antigen; alpha-4-beta-1; CD49/CD29; cell adhesion; arylalkyl azolylalkanoic acid derivative; arylureidoalkyl azolylalkanoic acid derivative; inflammatory disorder; autoimmune disorder; respiratory disorder; LDV motif.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to peptidomimetic compounds (AAY77415-Y77438) capable of inhibiting the binding of the VLA-4 integrin (alpha-4-beta-1, CD49d/CD29) to the CS-1 portion (25 amino acids) of a spice variant of the extracellular matrix protein fibronectin (FN). VLA-4 is expressed on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New peptidomimetic compounds used as cell expressing receptor and VLA-4 inhibitors cardiovascular disorders -
                                                                             30-JUN-1998;
                                                                                                                                                   31-MAY-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            important role in the maturation and trafficking. VLA-4-mediated leukocyte adhesion to the CS-1 FN of endothelial cells is also a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ب
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ability to
       PFIZER PROD INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      h 100
Similarity 100
5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                             98US-0091180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Elices
                                                                                                                                                   99WO-IB00973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  leukocytes; the CS-1 FN/VLA-4 interaction plays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 peptide #2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          inhibit VLA-4 Jurkat cells
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 23; DB Pred. No. 6.4
); Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FCA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cell
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6.4e+05; thes 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        for
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Huyghe BG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          immobilised CS-1 peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
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Best Local S
Matches 5
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                                                                                                                                                                                                                                                                                                   very late antigen; antibody; kidney disease; chronic renal failure;
end-stage renal disease; chronic diabetic nephropathy;
diabetic glomerulopathy; diabetic renal hypertrophy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          inducible cell surface protein VCAM-1 (vascular cell adhesion molecule-1) and for the alternatively spliced forms of fibromectin (FN) which contain the CS-1 domain. The novel compounds inhibit cell adhesion, and consequent or associated pathogenic processes mediated by VLA-4, and may therefore be useful in the treatment and prevention of inflammatory, autoimmune, or respiratory disorders. These include asthma, arthritis, psoriasis, multiple sclerosis, transplant rejection, diabetes, and inflammatory bowel disease. Sequences AAY69618-769620 represent peptides derived from the VLA-4-binding domain of the FN CS-1 region which contain the LDV motif and are known to inhibit fibromectin-dependent
             WPI; 2001-273408/28
                                          Allen
                                                                   (BIOJ
                                                                                                                                           14-SEP-2000; 2000WO-US25140
                                                                                                                                                                                                    WO200119396-A1
                                                                                                                                                                                                                               Unidentified
                                                                                                                                                                                                                                                         nephrotropic;
                                                                                                                                                                                                                                                                         chronic glomerulonephritis;
                                                                                                                                                                                                                                                                                                                                                                           Fibronectin VLA-4 binding domain-derived pentapeptide
                                                                                                                                                                                                                                                                                                                                                                                                         02-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB73465
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB73465 standard; peptide; 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      azolylalkanoic acid derivatives and related compounds (I), and their salts and prodrugs. These are are integrin inhibitors, specifically of VLA-4 (very late antigen 4, also known as alpha-4-beta-1 or CD49d/CD29), which mediate cell adhesion. VLA-4 is a receptor for the cytokine-
                                                                                                                14-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                Integrin antagonist; VLA-4 antagonist; alpha-4-beta-1 integrin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arylalkyl and arylureidoalkyl azolylalkanoic acid derivatives
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Duplantier AJ,
                                                                                                                                                                        22-MAR-2001.
                                                                                                                                                                                                                                                                                        hypertensive nephrosclerosis; hypertensive glomerulosclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cell adhesion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates
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                                                                   BIOGEN INC.
IMPERIAL COLLEGE SCI TECHNOLOGY & MED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
5; Conserv
                                        Pusey C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       σ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA;
                                                                                                                                                                                                                                                            cell
                                                                                                                99US-0153826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Milici AJ,
                                                                                                                                                                                                                                                            adhesion
                                          qqoI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             to novel arylalkyl and arylureidoalkyl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chupak LS
                                                                                                                                                                                                                                                                        hereditary nephritis; renal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 23;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; DB 21;
. 6.4e+05;
ches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
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                                                                                                                                                                                                                                                                                                                                                                            #1
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                                                                                                                                                                                                                                                                         dysplasia;
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0;

Treating failure,

a mammal in, or at a risk of developing, chronic renal involves administering at least one integrin antagonist to the

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Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB91966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           administration of at least one integrin antagonist. The integrin antagonists that may be used in the method include antagonists of alpha-4-subunit containing integrins or antagonists of alpha-1-subunit-containing integrins or antagonists are antibodies specific for VLA-1 (very late antigen-1, alpha-1-beta-1 integrin) or VLA-4 (alpha-4-beta-1 integrin) which inhibit the interaction of the integrin and its cognate ligand (collagen I, collagen IV, and laminin in the case of VLA-1, and fibronectin and VCAM-1 in the case of VLA-4). The method of the invention may be used to treat chronic renal failure, cend-stage renal disease, chronic diabetic nephropathy, diabetic cend-stage renal disease, chronic glomerulonephritis, hereditary chepititis or renal dysplasia. Sequences AB73464-AAB73465 represent comphritis or renal dysplasia. Sequences AB73464-AAB73465 represent comphrities derived from the VLA-4 binding domain (CS-1 region) of the vLA-4 binding domain (CS-1 region) and may consider the vLA-4 binding domain (CS-1 region) and may the method of the invention.
                                                                                                                                                                           17-MAY-1999;
10-SEP-1999;
15-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to a method for treating a mammal with or at risk of developing, chronic renal failure, involving the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 24; 62pp; English.
     peptidase degradation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fibronectin fragment and fibrin related peptide SEQ ID NO:1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAB91966;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB91966 standard;
             Modifying and attaching therapeutic peptides to albumin peptidase degradation, useful for increasing length of i
                                                                                                                                                                                                                                                  17-MAY-2000; 2000WO-US13576
                                                                                                                                                                                                                                                                                     23-NOV-2000
                                                                                                                                                                                                                                                                                                                        WO200069900-A2
                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                 Protection; endogenous therapeutic peptide; peptidase; conjugation; blood component; modification; succinimidyl; maleimido group; amino;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-JUN-2001
                                                                    WPI; 2001-112059/12
                                                                                                                                                                                                                                                                                                                                                                                                                hydroxyl; thiol;
                                                                                                                                         (CONJ-) CONJUCHEM INC.
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1 eildv 5
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ilarity 100.0%;
Conservative 0;
                                                                                                      Ezrin AM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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                                                                                                                                                                         99US-0134406.
99US-0153406.
99US-0159783.
                                                                                                                                                                                                                                                                                                                                                                                                                hormone; growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Peptide;
                                                                                                        Milner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 23;
Pred. No. (
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PG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                  factor;
                                                                                                      Holmes DL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                  neurotransmitter.
              to albumin prevents length of in vivo activity
                                                                                                      Thibaudeau
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      involving the
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RESULT 10
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Best Local
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                                                                                                                                                                                           Integrin;
paxillin;
                                             Polypeptides useful in construction of structural models for identifying therapeutic compounds, comprises series of heptad repeats that mimic a transmembrane domain and cytoplasmic domain attached to
                                                                                                                                            07-DEC-2000
                                                                                                                                                                       Unidentified
                                                                                                                                                                                    multiple sclerosis; asthma; atherosclerosis; wound healing.
                                                                                                                                                                                                                            19-MAR-2001 (first entry)
                                                                                                                                                                                                                                           AAB50876
                                                                                                                                                                                                                                                       AAB50876 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 569; 733pp;
                                                                                                                01-JUN-1999;
                                                                                                                              01-JUN-2000; 2000WO-US15153
                                                                                                                                                                                                              Integrin recognition peptide sequence #3.
                                                                        WPI; 2001-070959/08
                                                                                                   (SCRI ) SCRIPPS RES INST.
                                                                                                                                                         WO200073342-A1
                                                                                                                                                                                                                                                                                       1 eildv
                                                                                                                                                                                                                                                                                                     1 eildv 5
                                                                                                                                                                                                                                                                                                                 Similarity
5; Conserv
                                                                                     HM,
                                                                                                                                                                                           transmembrane protein; alpha4 integrin inhibitor; immunosuppressive; inflammatory bowel disease; arthritis;
                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                    A.
                                                                                     Pfaff M,
                                                                                                                 99US-0323447
                                                                                                                                                                                                                                                                                                                        100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        English
                                                                                                                                                                                                                                                                                                                 Score 23; DE
Pred. No. 6.4
0; Mismatches
                                                                                                                                                                                                                                                                                                                   . 6.4e+05; thes 0;
                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                   Gaps
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The present sequence is given in a specification relating to polypeptide comprising a series of heptad-repeats that mimic transmembrane domain, and a selected cytoplasmic domain attac

attached

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the

Disclosure; Page 2;

37pp; English

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RESULT 1
AAB59135
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Best Local S
Matches 5
The present invention relates to a peptide with a series of heptad-repeats that mimic a transmembrane domain and a selected cytoplasmic domain attached to the heptad repeats. The invention is useful for evaluating structure and activity of a selected occupied and clustered transmembrane protein with the selected cytoplasmic domain and for identifying therapeutic compounds. It is also useful for identifying a cytoplasmic domain binding party
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      clustered transmembrane protein having the selected cytoplasmic domain and for identifying therapeutic compounds. It is also useful for identifying agents as inhibitors of alpha4 integrin biological responses by contacting the structural model with paxillin or a paxillin related molecule in the presence and absence of a test agent and determining binding of paxillin or paxillin related molecule to the structural model. A decrease in binding in the presence of the test agent indicates that the test agent is an inhibitor of alpha4 integrin biological response. Inhibitors of the binding of paxillin to alpha4 are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          heptad repeats. At least a portion of the polypeptide is prepared recombinantly or at least 1 heptad repeat in the series has a different amino acid sequence to other heptad repeats in the series. The polypeptide is useful in the construction of structural models which are useful for evaluating structure and activity of a selected occupied and
                                                                                                                                                                                                                                                                                                     Polypeptides useful in construction of structural models for identifying therapeutic compounds, comprises series of heptad repeats that mimic a transmembrane domain and cytoplasmic domain attached to the repeats
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ginsberg MH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-DEC-2000
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inflammation; thrombosis; malignancy.
                                                                                                                                                                                                                                     Disclosure; Page 2; 36pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-MAY-2000;
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                                                                                                                                                                                                                                                                                                  the repeats
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Best Local S
Matches 5
                                                                                                        It is may be used to study protein interactions with transmembrane proteins such as integrin, which can be used to treat conditions in which over activity of integrins is involved, such as inflammation, thrombosis and malignancy.
                                                                                   Sequence
eildv 5
                              Similarity
5; Conserv
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Search completed: June 10, Job time: 117 sec 2002, 06:30:08 В

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protein - protein search, using sw model
June 10, 2002, 06:17:45 ; Search time 14.7 Seconds (without alignments) 32.683 Million cell updates/sec
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8

Title: Perfect score: 09-251073 23 1 eildv 5

Scoring table:

BLOSUM62 Gapop 10.0 , Gapext 0.5

Total number of hits satisfying chosen parameters:

283138 seqs, 96089334 residues

Minimum DB Maximum DB seg length: 0 seg length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_71:*

Database

4321 pir2:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

transcription anti	S73413 A95182	221	320 321	100.0	23	U 42
sulfate adenylyltr phytoene synthase probable 60s acidi	B81111 S20383 T41157	N N N	307 307 312	100.0 100.0	2 2 2 3 3 3	ដីស៊ីដ
3-demethylubiquino hypothetical prote probable sulfate a	E97820 T21185 G81905	222	289 290 307	100.0 100.0	223 33	4 3 9 4 0 9 0
hypothetical prote regulator of purin H+-transporting AT	C64995 C86907 . S01402	222	. 267 271 286	100.0	223 333	765
Nitrate transport erythrocyte band	A95300 H90388	22	266 267	100.0	23 3	2 3
conserved nypothet hypothetical prote nasD protein - Kle	H/U188 T32649 C55581	אממ	256 261	100.0	223	ã ≓ č

ALIGNMENTS

Š A;Cross-references: GB:BA000008; NID:g8979057; PIDN:BAA98892.1; GSPDB:GN00142 A;Experimental source: strain J138 C;Genetics: A;Gene: CPj0685 R:Shirai, M.; Hirakawa, H.; Kimoto, M.; Tabuchi, M.; Kishi, F.; Ouchi, K.; Shiba, T.; Nucleic Acids Res. 28, 2311-2314, 2000
A;Title: Comparison of whole genome sequences of chlamydia pneumoniae J138.
A;Reference number: A86491; MUID:20330349
A;Accession: B86576 hypothetical protein CPj0685 [imported] - Chlamydophila pneumoniae (strain J138) C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 02-Mar-2001 C;Accession: B86576 밁 A;Status: preliminary A;Molecule type: DNA A;Residues: 1-50 <STO> Query Match
Best Local Similarity
Matches 5; Conserv 1 eildv 5 ||||| 7 EILDV 11 100.0%; ilarity 100.0%; Conservative 0, 0; Score 23; DB Pred. No. 53; Mismatches 2 0 Length Indels 0 Gaps <u>..</u>

hypothetical protein - Chlamydophila pneumoniae (strain CWL029)
C;Species: Chlamydophila pneumoniae, Chlamydia pneumoniae
C;Date: 23-Apr-1999 #sequence_revision 23-Apr-1999 #text_change 05-May-2000
C;Accession: C72047

Fan,

J.; Olinger, L.;

Grimwood

R; Kalman, S.; Mitchell, W.; Marathe, R.; Lammel, C.; Nature Genet. 21, 385-389, 1999

A;Title: Comparative genomes of Clamydia pneumoniae and C. trachomatis. A;Reference number: A72000; MUID:99206606
A;Accession: C72047
A;Status: preliminary

A; Molecule type: DNA A; Residues: 1-50 <ARN> A; Cross-references: GB; A; Experimental source: c; Genetics: GB:AE001651; GB:AE001363; NID:g4376985; PIDN:AAD18824.1; PID:g437 CWL029

strain

A; Gene:

Query Match Best Local S Matches 5 Similarity 5; Conserv 100.0%; Score 23; DB llarity 100.0%; Pred. No. 53; Conservative 0; Mismatches 2. 0, Length 50; Indels 0;

0;

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RESULT 4
A69441
conserved hypothetical protein AF1530 - Archaeoglobus fulgidus
c.Species: Archaeoglobus fulgidus
C.Species: Archaeoglobus fulgidus
C.Date: 10; Sep-1999 #sequence_revision 10-Sep-1999 #text_change 21-Jul-2000
C.Accession: A69441
R;Klenk, H.P; Clayton, R.A.; Tomb, J.F.; White, O.; Nelson, K.E.; Ketchum,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Authors: Foulger, D.; Fritz, C.; Fujita, M.; Fujita, Y.; Fuma, S.; Galizzi, A.; Galle iech, J.; Harwood, C.R.; Henaut, A.; Hilbert, H.; Holsappel, S.; Hosono, S.; Hullo, M.F Koetter, P.; Koningstein, G.; Krogh, S.; Kumano, M.; Kurita, K.; Lapidus, A.; Lardinois A;Authors: Lauber, J.; Lazarevic, V.; Lee, S.M.; Levine, A.; Liu, H.; Masuda, S.; Mauee Y, M.; Ogawa, K.; Ogiwara, A.; Oudega, B.; Park, S.H.; Parro, V.; Pohl, T. M.; Portetell Rieger, M.; Rivolta, C.; Rocha, E.; Roche, B.; Rose, M.; Sadaie, Y.; Sato, T.; Scanton A;Authors: Schleich, S.; Schroeter, R.; Scoffone, F.; Sekiguchi, J.; Sekowska, A.; Sero akeuchi, M.; Tamakoshi, A.; Tanaka, T.; Terpstra, P.; Tognoni, A.; Tosato, V.; Uchiyama T.; Winters, P.; Wipat, A.; Yamanoto, H.; Yamane, K.; Yasumoto, K.; Yata, K.; Yoshida, A.; Authors: Yoshikawa, H.E.; Zumstein, E.; Yoshikawa, H.; Danchin, A.
A.;Authors: Toe complete genome sequence of the Gram-positive bacterium Bacillus subtilis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA Res. 1, 1-14, 1994
A;Title: Systematic sequencing of the 180 kilobase region A;Reference number: S65967; MUID:96051385
A;Accession: S66050
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A;Accession: C69737
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R;KUNSt, F.; Ogasawara, N.; Moszer, I.; Albertini, A.M.; Alloni, G.; Azevedo, V.; Ber C.; Bron, S.; Brouillet, S.; Burschi, C.V.; Caldwell, B.; Capuano, V.; Carter, N.M.; A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari, A.; Ehrlich, S.D.; Emmerson, P.T.; Entian, K.D.; Errington, J.; Fabret, C.; Ferrari,
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c;Species: Bacillus subtilis
C;Date: 21-Nov-1993 #sequence_revision 10-Nov-1995 #text_change 20-Jun-2000
C;Accession: S13787; S66050; C69737
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A;Cross-references: GB:
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Nature 390, 249-256,
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5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Escherichia coli ybaB protein
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Pred. No. 1.3e+02;
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ida, S.; Maueel
M.; Portetelle
                         K.A.;
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                                                                           A; Molecule type: nucleic acid
A; Residues: 1-143 < AIZ>
A; Experimental ---
                                                                                                                                                                               A; Reference number: A44259;
A; Accession: C44259
                                                                                                                                                                                                                                                                                                                                                                       kinesin heavy chain homolog KIF5 - mouse (fragment)
C; Species: Mus musculus (house mouse)
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                      A; Note: sequence
C; Superfamily: ki
                                                                                                                                                                                                                                       A; Title: Kinesin family in murine
                                                                                                                                                                                                                                                             R;Aizawa, H.; Sekine, Y.; Takemura, R.; Zhang, Z.; Nangaku, J. Cell Biol. 119, 1287-1296, 1992
                                                                                                                                                                                                                                                                                                                     C;Date: 10-Jun-1993 #sequence_revision
C;Accession: C44259
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C; Superfamily:
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100.0%; ilarity 100.0%; Conservative

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Score 23; DE Pred. No. 1.4); Mismatches

1.4e+02

DB

2;

Length 119;

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Gaps

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extracted from NCBI backbone (NCBIP:118906) inesin heavy chain; kinesin motor domain hom

murine central MUID:93077686

nervous

system

18-Nov-1994 #text_change 13-Feb-1998

M.; Hirokawa, N.

with

conceptual translation

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Proc. Natl. Acad. Sci. U.S.A. 97, 12176-12181, 2000
A;Authors: Hou, S.; Daniels, C.J.; Dennis, P.P.; Omer, A
A;Title: Genome sequence of Halobacterium species NRC-1.
A;Reference number: A84160; MUID:20504483
A;Accession: F84272
                                                                                                                                                                                R;Ng, W.V.; Kennedy, S.P.; Mahairas, G.G.; Berquist, F.; Leithauser, B.; Keller, K.; Cruz, R.; Danson, M.J.; Jung, K.H.; Alam, M.; Frattas, T.

Proc. Natl. Acad. Sci. U.S.A. 97, 12176-12181, 2000
                                                                                                                                                                                                                                                  C;Accession: F84272
R;Ng, W.V.; Kennedy, S.P.; Mahairas,
                                                                                                                                                                                                                                                                                                    hypothetical protein Vng1169c [imported] - Halobacterium sp. NRC-1
C;Species: Halobacterium sp. NRC-1
C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 16-Feb-2001
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Nature 390, 364-370, 1997
A; Authors: Utterback, T.; Cotton, M.D.; Spriggs, Smith, H.O.; Woese, C.R.; Venter, J.C.
A; Cross-references:
                        A; Molecule type: DNA
A; Residues: 1-119 <STO>
                                                                    A; Status: preliminary
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  GB:AE004437; NID:g10580704; PIDN:AAG19546.1;
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    GSPDB:GN00138
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; Maddocks, D.(
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G.; Ja
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probable PTS enzyme II B component [imported] - Escherichia coli
C;Specles: Escherichia coli
C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change
C;Accession: E90645
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A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli 0157:H7
A;Reference number: A99629; MUID:21156231; PMID:11258796
A;Accession: E90645
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A; Cross-references: GB:
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Nature 409, 529-533, 2001
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C; Accession: E85496
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A; Residues: 1-146 <HAY>
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Pred. No.
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Pred. No. 1.8e+02;
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Pred. No. 1.8e+02;
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A.; Dimalanta,
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Lanta, E.;
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R;Glass, J.I.; Lefkowitz, E.J.; Glass, submitted to GenBank, February 2000 A;Description: The complete sequence of
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Rejandream, M.A.; Rogers, M.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Garnier, Connor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; Holi Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S. Nature 393, 537-544, 1998

A; Authors: Squares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G. A; Title: Deciphering the biology of Mycobacterium tuberculosis from the complete A; Reference number: A70500; MUID:98295987

A; A; A; Coession: F70814
A; Starius.
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S.; Moule, S.; O'Gaora, P.
Nature 413, 848-852, 2001
A; Authors: Parry, C.; Quail, M.; Rutherford, K.;
A; Authors: Complete genome sequence of a multiple material complete and the material complete a
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R;Parkhill, J.; Dougan, G.; James,
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transcription elongation factor UU304 [imported] - Ureaplasma urealyticum C;Species: Ureaplasma urealyticum C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Sep-200 C;Accession: G82906
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A; Gene: STY2351
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A; Residues: 1-147 <COL>
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Pred. No.
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, P.; Davies, R.
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. 1.8e+02;
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R.M.; Dowd,
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, L.; White, N.; Farr
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Ureaplasma

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J.S.;

Heiner,

C.R.;

Chen,

E.Y.;

Cassell,

G.H. of.

02-Sep-2000

A; Introns: 4/2;

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phosphoribosylaminoimidazole carboxylase catalytic chain [imported] - Salmo (;Speciles: Salmonella enterica subsp. enterica serovar Typhi A;Note: this species has also been called Salmonella typhi C;Date: 09-Nov-2001 #sequence_revision 09-Nov-2001 #text_change 27-Nov-2001 C;Accession: AH0568
                                                                                 A; Molecule type: DNA
A: Residues: 1-172 <LIV>
                                                                                                                                    R;Livak, K.J.

Genetics 124, 303-316, 1990
A;Title: Detailed structure
A;Reference number: S24397;
                                                                                                                                                                                                            stellate protein - fruit fly (Drosophila melanogaster) C;Species: Drosophila melanogaster C;Date: 19-Feb-1994 *sequence_revision 23-Feb-1996 *te C;Accession: S24397; S08120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A:Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.; A;Title: Complete genome sequence of a multiple drug resistant A;Reference number: AB0502; PMID:11677608
A;Accession: AH0568
A;Status: preliminary
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A;Genetic code: SGC3
C;Superfamily: transcription elongation
C;Keywords: transcription factor
A;Gene: sterlate
A;Cross-references: FlyBase:FBgn0003523
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A; Accession: G82906
                                                  C; Genetics
                                                                    A; Cross-references: EMBL: X15899;
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A; Residues: 1-169 < PAR>
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Davis,
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Pred. No. 1.9e+02;
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                                                                    PIDN:CAA33906.1;
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A;Gene: aroL
C;Superfamily: shikimate kinase;
C;Keywords: phosphotransferase
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R;Parkhill, J.; Wren, B.W.; Thomson, N.R.; Titball, R.W.; Holden, M.T.G.; Prentice, M. deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, G. il, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barrel Nature 413, 523-527, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  stellate protein - fruit fly (Drosophi. C;Species: Drosophila melanogaster C;Date: 19-Mar-1997 #sequence_revision C;Accession: S24398 R;Liyak, K.J.
                                                                                                                                                                                                                                                                                                                                                     shikimate kinase (EC 2.7.1.71) [imported] - Yersinia pestis (strain CO92)
C;Species: Yersinia pestis
C;Date: 02-Nov-2001 #sequence_revision 02-Nov-2001 #text_change 11-Jan-20
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AF0390
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A; Residues: 1-172 <L
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                                                                                                                                                                                                                                         A; Title: Genome sequence of Yersinia pestis, the causative agent of plague. A; Reference number: AB0001; MUID:21470413; PMID:11586360 A; Accession: AF0390
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ilarity 100.0%;
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Pred. No. 2.2e+02;
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Ureaplasma parvum (Ureaplasma urealyticum |
Bacteria; Firmicutes; Bacillus/Clostridium
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"Two membrane anchors of Wolinella succinogenes hydrogen
function in fumarate and polysuifide respiration.";
submitted (NOV-1997) to the EMBL/GenBank/DDBJ databases.
-- CAPALYTIC ACTIVITY: L-aspartate - beta-alanine + CO(
--- COFACTOR: Pyruvoyl group (By similarity).
-- PARHWAY: Pantothenate blosynthesis; second branch.
--- SIMILARITY: BELONGS TO THE PAND FAMILY.
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Aspartate 1-decarboxylase precursor (F
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  Mycoplasmataceae;
NCBI_TaxID=134821;
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-i- FUNCTION: RESPONSIBLE FOR THE APPEARANCE OF P
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Glass J.I., Lefkowitz E.J.,
Cassell G.H.;
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MEDLINE=90169476; PubMed=1689686;
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Ephydroidea; Drosophilidae; Drosophila.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FUNCTION: NECESSARY FOR EFFICIENT RNA POLYMERASE TRANSCRIPTION ELONGATION PAST TEMPLATE-ENCODED ARRESTING SITES. THE ARRESTING SITES IN DNA HAVE THE PROPERTY OF TRAPPING A CERTAIN FRACTION OF ELONGATING RNA POLYMERASES THAT PASS THROUGH, RESULTING IN LOCKED TERNARY COMPLEXES. CLEAVAGE OF THE NASCENT TRANSCRIPT BY CLEAVAGE FACTORS SUCH AS GREA OR GREB ALLOWS THE RESUMPTION OF ELONGATION EROM THE NEW 3'TERMINIS. GREA RELEASES SEQUENCES OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 TO 3 NUCLEOTIDES (BY SIMILARITY).
SIMILARITY: BELONGS TO THE GREA/GREB FAMILY.
                                                                                                                                                                                                                                                                                                                                                EILDV
                                                                                                                                                                                                                                                                                                                                                                                            Similarity 5; Conserv
                                                                                                                                                                                                                             protein
                                                                                                                                                                                        melanogaster (Fruit fly).
Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
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nilarity 100.
Conservative
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witz E.J., Glass
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14,
38,
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Last annotation updat
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                                                                                                                                                                                                                                                                                       172
                                                                                  melanogaster stellate
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                                   PROTEINACEOUS STARS
                                                                                                                                                                                                                                                                                                                                                                                                                     Length 156;
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             STELLATE GENE
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Interpro: IPR000704; CAS_Kinase_II.
Pfam; PP01214; CK_II_beta; 1.
PRINTS; PR00472; CASNKINASEII.
PROSITE; PS01101; CK2_BETA; 1.
Testis; Multigene family.
SEQUENCE 172 AA; 19507 MW; C86304
                                                                                                                                                                                                                                       STRAIN-JAL-1 / DSM 2661 / ATCC 43067;

MEDLINE-96337999; PubMed-8688087;

Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D.,

Sutton G.G., Blake J.A., FitzGerald L.M., Clayton R.A., Gocayne J.D.,

Kerlavage A.R., Dougherty B.A., Tomb J.-F., Adams M.D., Reich C.I.,

Overbeek R., Kirkness E.F., Weinstock K.G., Merrick J.M., Glodek A.,

Scott J.L., Geoghagen N.S.M., Weidman J.F., Fuhrmann J.L., Nguyen D.,

Utterback T.R., Kelley J.M., Peterson J.D., Sadow P.W., Hanna M.C.,

Cotton M.D., Roberts K.M., Hurst M.A., Kaine B.P., Borodovsky M.,

Klenk H.-P., Fraser C.M., Smith H.O., Woese C.R., Venter J.C.;

"Complete genome sequence of the methanogenic archaeon, Methanococcus jannaschil.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            METJA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                            modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                        Science 273:1058-1073(1996).
-I- SIMILARITY: BELONGS TO THE UPF0101 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PIR;
                                                                                                               This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Event the European Bloinformatics Institute. There are no restructed by non-profit institutions as long as its content use by non-profit institutions as long as its content
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                 EMBL; U67548; AAB99053.1; TIGR; MJ1050; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
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Methanococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-JUL-1998 (Rel. 36, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
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MJ1050.
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SIMILARITY: BELONGS
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$24397; $24397
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5; Conservative
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protein; ATP-binding; Complete
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Methanococcales; Methanococcaceae;
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Pred. No. 82;
0; Mismatches
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proteome
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Best Local S
Matches 5
                                                                                                                                                                                                                               "Structural analysis of Arabidopsis thaliana chromosome 5. VI.
T Sequence features of the regions of 1,367,185 bp covered by 19
T Sequence features of the regions of 1,367,185 bp covered by 19
T Sequence features of the regions of 1,367,185 bp covered by 19
T physically assigned p1 and TAC clones.";

I DNA Res. 5:203-216(1998).

C -!- FUNCTION: RECOGNIZES AND BINDS THE 7-METHYLGUANOSINE-CONTAINING
C MRNA "CAP" DURING AN EARLY STEP IN THE INITIATION OF ROTEIN
C SYNTHESIS AND FACILITATES RIBOSOME BINDING BY INDUCING THE
UNWINDING OF THE MENAS SECONDARY STRUCTURES (BY SIMILARITY).
C -!- SUBUNIT: EIF4F IS A TRIMER COMPOSED OF EIF4E, EIF4G AND EIF4A
(WHICH CAN CYCLE IN AND OUT OF THE COMPLEX). IN HIGHER PLANTS TWO
C ISOFORMS OF EIF4F HAVE BEEN IDENTIFIED, NAMED EIF4F AND
C EIF(ISO)4F, EIF4F HAS SUBUNITS P220 AND P28, WHEREAS EIF-(ISO)4F
HAS SUBUNITS P82 AND P26 (BY SIMILARITY).
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-JUL-1998 (Rel. 36, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Eukaryotic translation initiation factor 4E (eIF-4E) (mRNA cap-binding protein) (eIF-(iso)4F 25 kDa subunit) (eIF-(ISO)4F P28 subunit) (eIF4EIso protein).
EIF4E2 OR ARTG35620 OR MJE4.8.
Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnollophyta; eudicotyledons; core eudicots; Rosida curosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                   This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Ew the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entitles requires a license agreement (See http://www.isb-sor send an email to license@fisb-sib.ch).
EMBL; U62044; AAB66906.1; ALT_INIT EMBL; Y10547; CAA71579.1; -. EMBL; AB013393; BAB09303.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIINE=97378268; PubMed=9234949; Wittmann S., Chatel H., Fortin M.G., Laliberte J.F.; "Interaction of the viral protein genome linked of turnip mosaic pottyvirus with the translational eukaryotic initiation factor (1so) 4E of Arabidopsis thaliana using the yeast two-hybrid system."; Virology 234:84-92(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 004663; Q9SAN8
15-JUL-1998 (R
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A
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RODRIGUEZ C., Freire M.A., I
Submitted (JAN-1997) to the
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20690 MW;
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e EMBL/GenBank/DDBJ databases
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       198
                                                                                        (See http://www.isb-sib.
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    Length 177;

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                                                            MEDLINE-21396509; PubMed-11481432;
A Barnett M.J., Fisher R.F., Jones T., Komp C., Abola A.P.,
A Barnoy-Hubler F., Bowser L., Capela D., Galibert F., Gouzy J.,
A Gurjal M., Hong A., Huizar L., Hyman R.W., Kahn D., Kahn M.L.,
A Kalman S., Keating D.H., Palm C., Peck M.C., Surzycki R., Wells D.H.,
A Kalman S., Keating D.H., Palm C., Peck M.C., Surzycki R., Wells D.H.,
A Kalman S., Keating D.H., Palm C., Peck M.C., Surzycki R., Wells D.H.,
A Kalman S., Keating D.H., Palm C., Peck M.C., Surzycki R., Wells D.H.,
A Kalman S., Keating D.H., Pederspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long S.R.;
A Yeh K.-C., Davis R.W., Federspiel N.A., Long 
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          This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nucleic (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Yang X., Gao W.M., Yang S.S.;
"The complete sequence of S. meliloti 042B noc Submitted (DEC-1997) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-042B;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-85087953; PubMed-6336331;
Toeroek I., Kondorosi E., Stepkowski T., Posfai J., Ko
"Nucleotide sequence of Rhizobium meliloti nodulation
Nucleic Acids Res. 12:9509-9524(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Plasmid pSymA (megaplasmid 1).
Bacteria; Proteobacteria; alpha
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Pfam; PF01652; IF4E; 1.
ProDom; PD003697; eIF_4E; 1.
PROSITE; PS00813; IF4E; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDILINE-85229955; PubMed-4006668; Egelhoff T.T., Fisher R.F., Jacobs T.W., Mulligan J.T., Lor "Nucleotide sequence of Rhizoblum meliloti 1021 nodulation modD is read divergently from nodABC.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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SEQUENCE 198 AA; 22514 MW; 71FEB309E073A9D2 CRC64
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|EILDV 179
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       through
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       collaboration
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P58154;
P58154;
P58154;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (Rel. 40, Creat protein procursor (ACh-binding protein) (AchBP).
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VARIANT
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SEQUENCE
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EMBL; X01649; CAA25809.1; -.
EMBL; AF038577; AAA95330.1; -.
EMBL; AE007237; AAK65132.1; -.
EMBL; AE007237; AZERBM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    between the Swiss Institute of Bloinformatics and the E
the European Bioinformatics Institute. There are no rest
use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by an
                                                                                                                                                                                                                        van Der Oost J., Smit A.B., Sixma T.K.; "Crystal structure of an ACh-binding pr ligand-binding domain of nicotinic rece Nature 411:269-276(2001).
                                                                                                                                                                                                                                                                                                                 MEDLINE-21256199; PubMed-11357122;
Brejc K., van Dijk W.J., Klaassen R.V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Smit A.B., Syed N.I., Schaap D., van Minnen J., Kits K.S., Lodder H., van Der Schors R.C., van Brejc K., Sixma T.K., Geraerts W.P.M.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                   transmission."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=CNS;
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- TISSUE SPECIFICITY: I
- PTM: N-GLYCOSYLATED.
- MASS SPECTROMETRY: MY
- SIMILARITY: TO THE E3
CHANNELS FAMILY.
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                                                                                                                                  SUBUNIT: HOMOPENTAMER. SUBCELLULAR LOCATION:
                                                                                                                                                                                                   FUNCTION: BINDS TO
                                                                                                             DEPENDENT MANNER IN
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Dlase; Nodulation; Plasmid; Complete proteome.

NT 10 10 V -> M (IN STRAIN 41).

NT 59 59 A -> T (IN STRAIN 41).

NNT 116 116 H -> R (IN STRAIN 41).

NNT 116 118 ACPQAAVRHIR -> LYLRPRSDTYE (IN STRAIN 42B).

NT 198 ALSR -> GFDV (IN STRAIN 042B).

NT 198 118 ACPQAAVRHIR -> LYLRPRSDTYE (IN STRAIN 42B).
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5; Conserv
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                       EXTRACELLULAR
                                              MW=24720.4; METHOD=QTOF;
                                                                                                                                                                                                   ACETYLCHOLINE. MODULATES NEURONAL SYNAPTIC
                                                                                      N: SECRETED. RELEASED THE SYNAPTIC CLEFT. EXPRESSED BY GLIAL CI
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Pred. No.
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                       PORTION OF
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                                                                                                                                                                                                                                                                                                                   Schuurmans
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      J.,
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Elk R., Sorg
                                              RANGE-20-229
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                         LIGAND-GATED
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Best Local S
Matches 5
                                                                                                                                                              EMBL; AB028858; BAA88306.1; -. HSSP; P35685; 1HDJ. MGD; MGI:1928739; Dnajb10. InterPro; IPR001623; DnaJ.N. InterPro; IPR002950; Josephin. InterPro; IPR00393; UIM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q9QYI5;
16-OCT-2001
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CARBOHYD
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  Chaperone.
                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Mammalian HSP40/DNAJ homologs: cloning of novel cDNAs and a proposal for their classification and nomenclature."; Cell Stress Chaperones 5:98-112(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Glycoprotein; Signal; 3D-structure.
                                                PROSITE; PS00636; PROSITE; PS50076;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=21023480; PubMed=11147971; Ohtsuka K., Hata M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
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                                                                                                                     PF00226; DnaJ; 1
PF02809; UIM; 1.
                                                                                                      SM00271;
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229 AA;
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g subfamily B member 10 (mDJ8).
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26061 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus.
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     J-DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; DB 1;
1.1e+02;
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P39459;
01-FEB-1995
15-JUL-1998
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SEQUENCE
                                                                                                                                                                                                                                                                                      PROSITE; PS00211; ABC_TRANSPORTER; 1.
Transport; ATP-binding; Membrane; Nitrate assimilation.
NP_BIND 41 48 ATP (POTENTIAL).
SEQUENCE 262 AA; 28996 Mg.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (NOV-1997) to the EMBL/GenBank/DDBJ databases -i- FUNCTION: PROBABLY PART OF A HIGH-AFFINITY BINDING-I DEPENDENT TRANSPORT SYSTEM FOR NITRATE. PROBABLY RE
                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00005; ABC_tran; SMART; SM00382; AAA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR003593; AAA.
InterPro; IPR003439; ABC_transportr.
InterPro; IPR001687; ATP_GTP_A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entities requires a license agreement (See http://www.isb-sib.ch/announce/
or send an email to license@isb-sib.ch)
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"The nasFEDCBA operon for nitrate and
Klebsiella pneumoniae M5al.";
J. Bacteriol. 176:2551-2559(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=94222832;
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222 EILDV 226
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ENERGY COUPLING TO THE TRANSPORT SYSTEM.
SUBCELLULAR LOCATION: Membrane-associated (Potential).
SIMILARITY: BELONGS TO THE ABC TRANSPORTER FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way find and the first through the same than the same transfer of the same trans
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Similarity 100.0%;
5; Conservative 0
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40, Last annotation
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28601 MW;
                                                                                                                                                                                                                                                                               28996 MW;
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Pred. No.
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: 81387B09ADF9B09A CRC64;
                                                                                                                                                              Score 23; DB 1;
Pred. No. 1.3e+02;
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RESULT 13
PURR_LACLA
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     PURR_LACLA O53065;
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DNA Res. 4.91-113(1997).

-I- SIMILARITY: BELONGS TO THE HPCH/HPAI ALDOLASE FAMILY.

-I- CAUTION: REF. 2 SEQUENCE DIFFERS FROM THAT SHOWN DUE TO FRAMESHIFT IN POSITION 117.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Science [2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=K12 / MG1655;
MEDLINE=97426617; PubMed=9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F. Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P76469; P76925; P76926; P76928; P76929; 16-OCT-2001 (Rel. 40, Created) 16-OCT-2001 (Rel. 40, Last sequence update) 16-OCT-2001 (Rel. 40, Last annotation update) Hypothetical protein yfau.
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YFAU_ECOLI
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| EILDV 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         complete genome sequence of Escherichia coli K-12."; nce 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                                     Similarity
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267 AA; 28916 MW; F68506D8A11D23FE CRC64;
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01-MAR-2002 (Rel. 41, 1
01-MAR-2002 (Rel. 41, 1
01-MAR-2002 (Rel. 41, 1
Pur operon repressor.
PURR OR LL2259.
                                                                                                                                                                                                                                                                                  01-MAR-1989
01-MAR-1989
01-NOV-1997
                                                                                                                         Bacteria; Firmicutes; Bacillus/Staphylococcus NCBI_TaxID=70306;
SEQUENCE FROM N.A.
MEDLINE-88163679; PubMed-2894854;
Ohta S., Yohda M., Ishizuka M., Hirata H.,
Otawara-Hamamoto Y., Matsuda K., Kagawa Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AJ222642; CAA10902.1; -.
EMBL; AE006455; AAK06357.1; -.
InterPro; IPR000836; Pribosyltran.
Pfam; PF00156; Pribosyltran; 1.
PROSITE; PS00103; PUR PYR PR TRANSFER; FALSE_NEG.
DNA-binding; Transcription regulation; Repressor; Complete SEQUENCE 271 AA; 30361 MW; 04614AA24E1C4BCD CRC64;
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P09222;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                     Bacillus PS3 (Thermophilic bacterium PS-3)
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-!- FUNCTION: CONTROL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "The complete genome sequence of the lactic lactis ssp. lactis IL1403."; Genome Res. 11:731-753(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bolotin A., Wincker P., Mauger S., Jaillon O., Malarme Weissenbach J., Ehrlich S.D., Sorokin A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SPECIES=L.1.lactis; STRAIN-IL1403; MEDLINE-21235186; PubMed-11337471;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SPECIES=L.1.cremoris; STRAIN=MG1363;
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SIMILARITY: BELONGS TO THE PURINE/PYRIMIDINE PHOSPHORIBOSYLTRANSFERASE FAMILY.
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01-FEB-1995 (Rel. 3
01-FEB-1995 (Rel. 3
01-FEB-1995 (Rel. 3
                                                                                    Submitted (AUG-1994) to the EMBL/GenBank/DDBJ databases.

-!- FUNCTION: PRODUCES ATP FROM ADP IN THE PRESENCE OF A PROTON GRADIENT ACROSS THE MEMBRANE. THE GAMMA CHAIN IS BELIEVED TO BE IMPORTANT IN REGULATING ATPASE ACTIVITY AND THE FLOW OF PROTONS THROUGH THE CF(0) COMPLEX.

-!- SUBUNIT: F-TYPE ATPASES HAVE 2 COMPONENTS, CF(1) - THE CATALYTIC CORE - AND CF(0) - THE MEMBRANE PROTON CHANNEL. CF(1) HAS FIVE SUBUNITS: A.DETA(3), GAMMA(1), DELTA(1), EPSILON(1). CF(1) HAS THREE MAIN SUBUNITS: A, B AND C.

-!- SIMILARITY: BELONGS TO THE ATPASE GAMMA CHAIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                      Bacteria; Firmicutes; Bacillus/Staphylococcus NCBI_TaxID=1395;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CHAIN
SEQUENCE
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HSSP; P05631; 1BMF.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Sequence and over-expression of subunits of adenosine triphosphate synthase in thermophilic bacterium PS3.";

Biochim. Blophys. Acta 933:141-155(1988).

11 FUNCTION: PRODUCES ATP FROM ADP IN THE PRESENCE OF A PROTON GRADIENT ACROSS THE MEMBRANE. THE GAMMA CHAIN IS BELIEVED TO BE IMPORTANT IN REGULATING ATPASE ACTIVITY AND THE FLOW OF PROTONS THROUGH THE CF(0) COMPLEX.

11 SUBUNIT: F-TYPE ATPASES HAVE 2 COMPONENTS, CF(1) - THE CATALYTIC CORE - AND CF(0) - THE MEMBRANE PROTON CHANNEL. CF(1) HAS FIVE
                                                This
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ATPG_BACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS; PRO0126; ATPASEGAMMA. PROSITE; PS00153; ATPASE_GAMMA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATP synthase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPRO00131; ATPase_gamma Pfam; PF00231; ATP-synt; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; X07804; CAA30653.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bacillus caldotenax.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hydrolase;
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HAS THREE MAIN SUBUNITS: A, B AND C.
SIMILARITY: BELONGS TO THE ATPASE GAMMA CHAIN FAMILY.
SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         l Similarity
5; Conserv
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A8B96F687C999252 CRC64;
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Pred. No. 1.4e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                     Bacillus
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Query Match Best Local S Matches 5

Similarity 5; Conser

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Pred. No. 1.4e+02; Mismatches 0;

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R EMBL; D38060; BAAU...

R HSSP; P05631; IBMF.

DR InterPro; IPR000131; ATPASSe_gamma.

DR Pfam; PF00231; ATP-synt; 1.

DR PRINTS; PR00126; ATPASEGAMMA; FALSE_NEG.

DR PROSITE; PS00153; ATPASE_GAMMA; FALSE_NEG.

TW ATP Synthesis; CF(1); Hydrogen ion transport; Hydrolase.

TW ATP SYNTHESIS; CF(1); Hydrogen ion transport; Hydrolase.

TWNCE 287 AA; 32391 MW; 78A9FB92E01BAE6E CRC64;

TOTAL CRC ATTPACE C
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ATPG_BACST
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Matches 5
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ISAÎZUKA M., IMAÎ H.;

ISAÎZUKA M., IMAÎ H.;

SUBMÎTUKA (AUG-1994) TO THE EMBL/GENBANK/DDBJ GATABASES.

-I- FUNCTION: PRODUCES ATP FROM ADP IN THE PRESENCE OF A PROTON

GRADIENT ACROSS THE MEMBRANE. THE GAMMA CHAIN IS BELIEVED TO BE

IMPORTANT IN REGULATING ATPASE ACTIVITY AND THE FLOW OF PROTONS

THROUGH THE CF(0) COMPLEX.

-I- SUBUNIT: F-TYPE ATPASES HAVE 2 COMPONENTS, CF(1) - THE CATALYTIC

CORE - AND CF(0) - THE MEMBRANE PROTON CHANNEL. CF(1) HAS FIVE

SUBUNITS: ALPHA(3), BETA(3), GAMMA(1), DELTA(1), EPSILON(1). CF(0)

HAS THREE MAIN SUBUNITS: A, B AND C.

CHAIN FROM THE PROTON CHANNEL CHAIN EDULY.
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P42007;
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01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation updat
ATP synthase gamma chain (EC 3.6.3.14).
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Pfam; PF00231; ATP-synt; 1.
PRINTS; PR00126; ATPASEGAMMA.
PROSITE; PS00153; ATPASE_AMMA; FALSE_NEGATP synthesis; CF(1); Hydrogen ion transposeQUENCE 287 AA; 32343 MW; BA039503BDJ
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HSSP; P05631;
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BA039503BD1F1E5A CRC64;
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Maximum DB
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2: sp_bacteria
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Copyright (c) 1993 - 2000 Comp
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09niv2 drosophila
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Q9z719 chlamydia p
Q9c2d4 neurospora
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-	Q9GMV1	074864	Q9X9K3	Q9JS34	94np6	017829	Q92H07	Q9CN70	Q52412	Q921S2	Q9EQ23	053065	Q9Н027	024845	Q94BW7	Q97WL9	Q92ZZ3	044520	051655	Q9FDJ6	027260	909T606	86 XM60	053253	095609	013501	Q9STJ1	Q9MZ31	Q97QD9.
	. Q9gmv1 macaca fasc	074864 schizosacch	Q9x9k3 vibrio para	4	. Q9jud6 neisseria m	017829 caenorhabdi	Q92h07 rickettsia		đ	Q921s2 mus musculu	Q9eq23 rattus norv	053065 lactococcus	Q9h027 homo sapien	024845 acinetobact	Q94bw7 cicer ariet	Q97w19 sulfolobus	Q92zz3 rhizobium m	044520 caenorhabdi	O51655 borrelia bu	Q9fdj6 lactobacill	O27260 methanother		Q9wy98 thermotoga	Q53253 rhizobium t	O95609 homo sapien	013501 phanerochae	Q9stjl arabidopsis	Q9mz31 bos taurus	Q97qd9 streptococc

ALIGNMENTS

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Query Match
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Matches 5
                                                                                                                                                                                                                                            SEQUENCE, SUBCELLULAR LOCATION, AND DEVELOPMENTAL STAGE.

STRAIN-CV. DE GRACE; TISSUE-LEAR;

MEDLINE-20181728; PubMed-10715320;

Peltier J.-B., Friso G., Kalume D.E., Roepstorff P., Nilsson F.,

Adamska I., van Wijk K.J.;

*Proteomics of the chloroplast: systematic identification and
targeting analysis of lumenal and peripheral thylakoid proteins.

Plant Cell 12:319-341(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P82341;
01-JUN-2000 (TrEMBLrel. 14, Created)
01-JUN-2000 (TrEMBLrel. 14, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
UNKNOWN PROTEIN FROM 2D-PAGE OF THYLAKOID (SPOT251)
                                                                                                             -1- DEVELOPMENTAL STAGE: UNFOLDED AND FULLY DEVELOPED LEAVES.
-1- MISCELLANEOUS: ON THE 2D-GEL THE DETERMINED PI OF THIS UNKNOWN PROTEIN IS: 8.5, ITS MW IS: 16.9 KDA.
Chloroplast; Thylakold membrane.
NON_TER 14 14 14
SEQUENCE 14 AA; 1590 MW; 6D968D2994D0185B CRC64;
                                                                                                                                                                                                                               Plant
-!- SI
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid
eurosids I; Fabales; Fabaceae; Papilionoideae; Vicieae; Pisum.
                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=3888;
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1 eildv 5
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                              l Similarity
5; Conserv
                                100.0%; ilarity 100.0%; Conservative
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                                                 Score 23;
Pred. No.
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Q9C2D4;
Q1-JUN-2001
01-DEC-2001
01-DEC-2001
                                                                German Neurospora genome project;
Submitted (NOV-2001) to the EMBL/
EMBL; AL513463; CAC28779.2; -.
                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
Schulte U., Aign V., F
Nyakatura G., Mewes H.
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Q9Z7L5;
Q1-MAY-1999 (TrEMBLrel. 10, Created)
Q1-MAY-1999 (TrEMBLrel. 10, Last sequence update)
Q1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
Q1-JUN-2001 (TrEMBLrel. 17, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Fungi; Ascomycot
Sordariales; Sordariaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Shirai M., Hirakawa H., Kimoto M., Tabuchi M., Kish Shiba T., Ishii K., Hattori M., Kihara S., Nakazawa "Comparison of whole genome sequences of Chlamydia from Japan and CWL029 from USA.";
Nucleic Acids Res. 28.2311-2314(2000).
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   Hypothetical | SEQUENCE 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Neurospora crassa.
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                                                                                                                                                                       SEQUENCE FROM N.A.
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1 (TrEMBLrel. 19, La
1 (TrEMBLrel. 19, La
AL 7.8 KDA PROTEIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ascomycota;
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H.W., Mannhaup
to the EMBL/G
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Chlamydiaceae; Chlamydophila
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Mannhaupt G.;
he EMBL/GenBank/DDBJ
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0; Mismatches
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A Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
A Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
A Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
A Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
A Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
A Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
A Kadota K., Matsudo Y., Nikaido I., Pesole G., Quackenbush J.,
A Kahil P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
A Kohriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
A Kahil L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
A Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
A Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
A Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
A Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
A Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
A Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
A Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
A Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
A Sasaki H., Sato K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
A Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
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MUTANT C-KIT RECEPTOR (FRAGMENT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Functional annotation of a full Nature 409:685-690(2001).
EMBL, AK016255; BAB30165.1; -.
MGD; MGI:1923108; 4930568L21Rik.
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Mus musculus (Mouse).
"Trvota; Metazoa; Chordata;
"Trvota; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q9D4R8;
                                                                        Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                          Q9JKS1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AK016255; BAMGD; MGI:1923108; SEQUENCE 100 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wynshaw-Boris
Hayashizaki Y
                          NCBI_TaxID=10116;
                                                 Mammalia; Eutheria;
                                                                                                                                                                                                                                Q9JKS1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-JUN-2001
01-JUN-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4930568L21RIK PROTEIN
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                                                                                                                                                                                                                                                                                                                                                                                       93
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5; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Shinagawa A., Shibata
                                                                                                                                                                                                                                                                                                                                                                                                                                      ű
                                                                                                                                                                                                                                                                                                                                                                                       97
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                          PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA;
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; TISSUE-TESTIS;
;0; PubMed-11217851;
shibata K.,
                                                    Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11528 MW;
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                                                                           Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 23;
Pred. No.
                                                    Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Sciurognathi; Muridae;
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Pred. No. 2.5e+02;
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                                                                                                                                                                                                                                                          116
                                                                           Vertebrata;
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hes 0;
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                                                                              Euteleostomi;
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                                                    Murinae;
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Q9JKS2;
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SMART; SM00410; IG_like; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-0CT-2000 (TremBLrel. 15, 01-0CT-2000 (TremBLrel. 15, 01-0CT-2001 (TremBLrel. 18, 01-0CT-2001 (FRAGMENT)).
                                                       Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                   C-KIT RECEPTOR (FRAGMENT).
                                                                                                                                      Q9JKSO;
01-OCT-2000 (TrEMBLrel. 15,
01-OCT-2000 (TrEMBLrel. 15,
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Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus norvegicus (Rat).
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STRAIN-BROWN NORWAY; TISSUE-TESTIS.
    SEQUENCE FROM N.A.
                                                                                                                                                                                                                      Q9JKS0
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); Mismatches
                                                         Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
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01-OCT-2000 (TrEMBLrel. 15,
01-OCT-2000 (TrEMBLrel. 15,
01-JUN-2001 (TrEMBLrel. 17,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Receptor.
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Archaeoglobus fulgidus.
Archaea; Euryarchaeota;
Archaeoglobus.
NCBI_TaxID=2234;
                                       01-JAN-1998 (TrembLrel.
01-AUG-1998 (TrembLrel.
CONSERVED HYPOTHETICAL I
AF1530.
                                                                                                                                                                                                                                                                                   Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases EMBL; AF228311; AAF69134.1; -: InterPro; IPR003600; Ig_like.
                                                                                                                                                                                                                                                                                                                 STRAIN-BROWN NORWAY; TISSUE-TESTIS Gangadharan S., Ali S.; Gangadharan S., Ali S.; "RT-PCR generated mRNA transcript male rat testis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (JAN-2000) to the EMBL/GenBank/DDBJ EMBL; AF228309; AAF69132.1; -. InterPro; IPR003500; Ig_like.
SMART; SM00410; IG_like; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gangadharan S., Al "RT-PCR generated male rat testis."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=BROWN NORWAY; TISSUE=TESTIS; Gangadharan S., Ali S.;
                                                                            028742;
01-JAN-1998
                                                                                                028742
                                                                                                                                                                                                                                    SEQUENCE
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                                                                                                                                                                                                                                                                           SMART; SM00410;
                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                     Rattus norvegicus (Rat).
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Similarity 100.
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                                                                                                PRELIMINARY;
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                                                                                                                                                                                                                                      12641 MW;
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                                              . 05, Last sequence update)
. 07, Last annotation update)
PROTEIN.
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                    Archaeoglobales; Archaeoglobaceae;
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Pred. No. '
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Pred. No. 4.1e+02;
Mismatches 0;
                                                                                                PRT;
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                                                                                                                                                                                                       Length 117;
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RA SUNTA H.D. Lasky S.R., Mahairas G.G., Berguist B., Pan M.,

RA Shukla H.D., Lasky S.R., Baliga N.S., Thorsson V., Sbrogna J.,

RA Shukla H.D., Lasky S.R., Baliga N.S., Thorsson M.J., Hough D.W.,

RA Swartzell S., Weir D., Hall J., Dahl T.A., Welti R., Goo Y.A.,

RA Leithauser B., Keller K., Cruz R., Danson M.J., Hough D.W.,

RA Maddocks D.G., Jablonski P.E., Krebs M.P., Angevine C.M., Dale H.,

RA Isenbarger T.A., Peck R.F., Pohlschroder M., Spudich J.L., Jung K.-H.,

RA Alam M., Freitas T., Hou S., Daniels C.J., Dennis P.P., Omer A.D.,

RA Ebhardt H., Lowe T.M., Liang P., Riley M., Hood L., DasSarma S.;

RT "Genome sequence of Halobacterium species NRC1.";

RET "Genome sequence of Halobacterium species NRC1.";
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01-MAR-2001
01-MAR-2001
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VNG1169C.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   наловасterium sp. (strain NRC-1).
Archaea; Euryarchaeota; Halobacteriales; Halobacteriaceae;
Halobacterium.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "The complete genome sequence of the hyperthermophilic, sulphate-reducing archaeon Archaeoglobus fulgidus.";
Nature 390:364-370(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-VC-16 / DSM 4304 / ATCC 49558; MEDLINE-98049343; PubMed-9389475;
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EILDV 114
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5; Conserv
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119 AA;
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l (TrEMBLrel.
l (TrEMBLrel.
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119 AA; 14025 MW;
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Pred. No.
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7F75DA993E80C15C CRC64;
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O53866; OTEMBLE1. 06, Crea
O1-JUN-1998 (TrEMBLE1. 06, Last
O1-DEC-2001 (TrEMBLE1. 19, Last
HYPOTHETICAL 16.3 KDA PROTEIN.
                         NON_TER
                                                                                                                                                                                                                 STRAIN-968 H90;
MEDLINE-20223868;
Ding D.Q., Tomita
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"Deciphering the biology of Mycobacterium tuberculosis from the complete genome sequence."; Mature 393:537-544(1998).

BMBL, AL022004; CAA17660.1; -
                                                                                              "Large-scale screening of in
fission yeast cells by the u
Genes Cells 5:169-190(2000).
EMBL; AB027955; BAA87259.1;
                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Fungi; Ascomy
Schizosaccharomycetales;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Schizosaccharomyces pombe (Fission yeast)
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  SEQUENCE
                                                                            Nuclear
                                                                                                                                                                                                  Hiraoka Y.;
                                                                                                                                                                                                                                                                                                                                                                        Schizosaccharomyces.
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                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=4896;
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171
171 AA;
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                                                                                                                                                                                                                      PubMed=10759889;
Y., Yamamoto A.,
                                                                                                                                                                                                                                                                                                                                                                                          Ascomycota; Schizosaccharomycete etales; Schizosaccharomycetaceae;
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the use of a GFP-fusion g
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Pred. No. 5.1e+02;
Mismatches 0;
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  30012B18345508BE CRC64;
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D8B55F6B86293E07 CRC64;
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Best Local Similarity 100.
Matches 5; Conservative
                                            Noelling J. Breton G. Omelchenko M.V., Makarova K.S., Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y Tatusov R.L., Sabathe F., Doucette-Stamm L., Soucaille F Bennett G.N., Koonin E.V., Smith D.R.; "Genome sequence and comparative analysis of the solvent bacterium Clostridium acetobutylicum."; J. Bacteriol. 183:4823-4838(2001).

EMBL, AE007683; AAK79705.1; "...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Shevelyov Y.Y., Kalmykova A.I.;
"Stellate orphon provides a poly(A) signal for bendless mRNA.";
Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF192309; AAF35172.1; -.
FlyBase; FB9n0003523; Ste.
InterPro; IPR000704; CAS_kinase_II.
Pfam; PF01214; CK.II_beta; 1.
PRINTS; PR00472; CASNKINASEII.
PROSITE; PS01101; CK2_BETA; 1.
SEQUENCE 172 AA; 19525 MW; A2C8752F3A976F8B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Musc
Ephydroidea; Drosophilidae; Drosophila.
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STRAIN-ATCC 824 / DSM 792 / VKM B-1787;
MEDLINE-21359325; PubMed-11466286;
                                                                                                                                                                                                                                                                                                                                                                                   Clostridium acetobutylicum.
Bacteria; Firmicutes; Bacil
Clostridium.
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Pred. No. 5.9e+02;
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     80EA9CA386E436BF CRC64;
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Q9F2I3;
01-MAR-2001
                                                                                                                               SEQUENCE FROM N.A.

STRAIN-CHALLIS;

MINICK P., Vickerman M.;

Submitted (OCT-2000) to the EMBL/GenBank/DDBJ databases.

EMBL; U12643; AAG32547.1; -.

Hypothetical protein.

SEQUENCE 176 AA; 19929 MW; B73E430114725CFF CRC64;
                                                                                                                                                                                                                                                    YLBN-LIKE.
                                                                                                                                                                                                                                                                       01-MAR-2001 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
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[1]
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nes 5; Conser
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6e+02;
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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein protein search, using sw model

Run on: June 10, 2002, 06:21:15; Search time 25.45 Seconds (without alignments) 21.822 Million cell updates/sec

Title: Perfect score: Sequence: 09-251073 23 1 eildv 5

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 747574 seqs, 111073796 residues

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database A_Geneseq_032802:*

10: 112: 13: 13: 14: 15: 16: 16: 17: 18: 18: 19: 22: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1987.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1988.DAT:*
/SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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AAB59135	AAB50876	AAB91966	AAB73465	AAY69619	AAY77442	AAY80488	AAY03855	AAW46318	AAW25192	AAR95719	ID	
Peptide #3 recogni	Integrin recogniti	Fibronectin fragme	Fibronectin VLA-4	VLA-4 inhibitor pe	Fibronectin CS1-de	Cell adhesion pept	Integrin ligand di	Peptide recognised	LDV-peptide capabl	Alpha-4Beta-1 inte	Description	

Standard peptide f Inhibitor of fibro	AAW01705 AAW01725	16	10	100.0	23	45
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		13	10	•	23	42
		13	10		23	41
		13	10	100.0	23	40
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Platelet aggregati		13	10		23	38
Cell adhesion inhi	AAR30432	13	10	100.0	23	37
Adhesion inhibitor	AAR2599	13	10		23	36
Fibronectin		21	9	100.0	. 23	35
Fibronectin		21	9	•	23	34
Fibronectin CS1-de		21	9		23	33
Fibronectin		21	9		23	32
Cell adhesion		13	9	100.0	23	31
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Adhesion inhibitor		13	9		23	29
Fibronectin fragme		22	80	100.0	23	28
Fibronectin VLA-4		22	œ	•	23	27
VLA-4 inhibitor pe	AAY6961	21	œ	100.0	23	26
Cell adhesion pep	AAY8048	21	89	•	23	25
Vitronectin	AAB3573	21	œ	•	23	24
Fibronectin		20	60		23	23
Fibronectin	AAY3286	20	80		23	22
Chimeric adenoviru		19	&	100.0	23	21
Peptide sequence		19	20	•	23	20
LDV-peptide capab	AAW2519	18	æ		23	19
VLA-4 binding		17	œ	100.0	23	18
Polymer-bound	AAR4436	15	œ	•	23	17
Cell adhesion		13	œ	100.0	23	16
		12	œ		23	15
Alpha4 integrins t		19	7	•	23	14
Fibronectin	AAY774	21	6	100.0	23	T3
Fibronectin	. AAY77443	21	σ	100.0	23	12

ALIGNMENTS

RESULT AAR95719

AAR95719 standard; peptide; 5 AA.

AAR95719;

04-DEC-1996 (first entry)

Alpha-4Beta-1 integrin binding inhibitory peptide 16

VCAM-1; vascular cell adhesion molecule-1; VLA-4; very late antigen-4; inhibitor; binding; white blood cell; migration; capillary wall; tissue damage; injury; fibronectin; extracellular matrix glycoprotein; CS1; CS5; H1; LDV; active site.

Synthetic.

Key Modified-site Location/Qualifiers /note- "val-NH2"

US5510332-A

23-APR-1996.

07-JUL-1994; 94US-0271830

07-JUL-1994; 94US-0271830.

(TEXA-) TEXAS BIOTECHNOLOGY CORP.

Beck PJ, Kogan TP, Ren K, Vanderslice 70

WPI; 1996-221274/22

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RESULT
AAW25192
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          agents. IA4B1 also recognises the extracellular matrix glycoprotein fibronectin. Three distinct IA4B1-binding sites have been identified within fibronectin. One site is found in the HeplI region and is expressed in all isoforms; two others (CS1 and CS5) are present in the alternatively spliced type III connecting segments. CS1 has the higher affinity for IA4B1 and contains the tripeptide LDV as its minimal active site. Peptides AAR95704-805 are modeled after a portion of the CS1 peptide that include the LDV domain presented in such a way by its novel flanking sequence to produce a potent inhibitor of IA4B1 binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vascular cell adhesion molecule-1 (VCAM-1) is protein found on the surface of endothelial cells that line the interior wall of capillaries. VCAM-1 recognises and binds to the integrin alpha-dbeta-1 (IAAB1; or VLA-4 for very late antigen-4), a heterodimeric protein present on the surface of certain white blood cells. Binding of IA4B1 to VCAM-1 allows white blood cells to adhere to the capillary wall in areas where the tissue surrounding the capillary has been infected or damaged. Sometimes this white blood cell migration can become uncontrolled, with white blood cells flooding to the scene, causing widespread tissue damage. Cpds. capable of blocking this process may be beneficial as therapeutic process.
   Claim
                               Endoropic irrigation solns. adhe on molecules
                                                                                                                                                                                                                                                                                                                  LDV; leucine; aspartic acid; valine; cell adhesion molecule; binding; bladder irrigation; tumour removal; endoscopic oper transurethral resection; cancer; neoplasia.
                                                                                                         Boehle
                                                                                                                                                                     15-AUG-1995;
                                                                                                                                                                                                                                                            DE19529909-A1
                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW25192 standard; peptide;
                                                                            WPI; 1997-133793/13
                                                                                                                                                                                                 15-AUG-1995;
                                                                                                                                                                                                                              20-FEB-1997.
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                                                                                                                                      (FREP ) FRESENIUS AG
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                               cell adhesion
                                              contg. peptide(s) that bind
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hes 0;
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Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   endoscopic operations. Preferred irrigation solutions are electrolyte-free and contain 1 microg/ml to 100 mg/ml of one or more oligopeptides containing the amino acid sequences: RGD, LDV, IDA, DGEA, GPRP, VTL, YIGSR, KQAGDV and/or REDV (given in one letter amino acid code). The solutions are especially used for irrigating the bladder during and after tumour removal by transurethral resection. The peptides protect against recurrence of tumours.
                                                                                                                                        Claim 27; Column
                                                                                                                                                                                                                  Brough DE, Wickham TJ;
                                                                                                                                                                                                                                                                                                                                                                      penton base protein; coat proteins; adenovirus; binding site; cellular adhesion; extracellular matrix molecule; binding dom cell surface binding site; bispecific molecule; binding dom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAW46318;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW25187-W25192 are peptides containing an LDV sequence or equivalent. The peptides are capable of binding to cell adhesion molecules and are used in aqueous irrigation solutions for use during and after
                                                                                                                                                           engineering
                                                                                                                                                                                            WPI; 1998-119984/11
                                                                                                                                                                                                                                                                     08-SEP-1994;
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                                                                                                                                                                                                                                                                                                                                                        Unidentified
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                                                                                                                                                                      Methods for
                                                                                                                                                                                                                                                                                           17-APR-1996;
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                                                                                                                                                           and gene therapy
                                                                                                                                                                      introducing adenovirus
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The present sequence is a linear stretch of amino acids (present in fibronectin) recognised by the integrin alpha/betal. Integrins are cell surface receptors. The penton base protein (one of the coat proteins) of adenoviruses binds to integrins. The integrins not only provide a binding site for the adenoviral penton base protein, but also mediate cellular adhesion to the extracellular matrix molecules. The specification describes a method of introducing an adenovirus into a cell in vitro having a particular cell surface binding site. The adenovirus is contacted with a bispecific molecule comprising a component that selectively binds a binding domain of the penton base protein of the adenovirus and a second component that selectively binds the cell surface binding site. A complex of the adenovirus and the bispecific molecule is

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RESULT
AAY03855
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CC an existing platelet thrombus in a blood vessel is due to dissociation of the binding of an integrin-ligand dissociator at ligand binding site I of the binding of an integrin-ligand dissociator at ligand binding site I of the glycoprotein IIb-IIIa. The invention provides a method of disaggregating an existing platelet thrombus in a blood vessel, where the platelet thrombus may form an occlusion of a blood vessel, where the platelet thrombus may form an occlusion of a blood vessel, where the platelet thrombus may form an occlusion of a blood vessel, in a subject comprises administering a compound which dissociates fibrinogen bound to a first interesting site on platelet glycoprotein IIb-IIIa, disaggregating the consistency of the method is used to treat humans with unstable and/or acute myocardial infarction. The methods can be used to enact de-adhesion of osteoclasts from the bone surface to halt for the de-adhesion of anglogenic endothelial cells in a patient with a patient with anglogenesis, e.g. cancer, diabetic retinopathy, psoriasis. The methods can also be used to treat tumours, bowel disease, or organ transplant rejection, and asthma. The methods can be used for the dissolution of pre-formed platelet aggregates, which is a departure from the current strategy of treatment prior to formation of
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adenovirus into the
vectors can be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Integrin-ligand; dissociator; disaggregation; platelet thrombus; stroke; fibrinogen; glycoprotein IIb-IIIa; angina; myocardial infarction; bone; osteoclast; osteoporosis; angiogenesis; cancer; diabetic retinopathy; psoriasis; tumour; atheroscierosis; inflammatory bowel disease; asthma; organ transplant rejection; arthritis; ILD.
                                                                                                                                                                                                                                                                                                                                                                                                                     Disaggregating a ligand:integrin receptor complex
                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-243586/20
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                                                                                                                                                                                                                                                                                                                                                 The invention relates to integrin ligand dissociators. Disaggregation of
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                                                                                                                                                                                                                                                                                                                                                                                       Page 10;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cell is contacted with it to allow entry of the the cell. The methods can be used for research and the sed for gene therapy.
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Pred. No.
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6.4e+05;
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                      fragments, proteins and peptides that facilitate cell adhesion, plasminogen activator inhibitors, protease inhibitors and metalloprotease inhibitors. The peptides AAY80466-Y80492 are claimed examples of cell adhesion peptides used in the system of the invention. The system is used to replace, remodel or correct bone defects, e.g. fractures, fissures or bone mass loss. Incorporation of (I) into the scaffold results in rapid seeding by osteoblasts and the development of an organic matrix, i.e. the preformed scaffold replaces the rate-determining step of extracellular matrix formation. The scaffold cabe designed to have a predetermined resorption/degradation rate, and may include regulatory compounds for specific cell types.
                                                                                                                                                                                                                                                                                                                                    System for reconstructing osseous tissue, useful e.g. for fractures, comprises scaffold containing promoter of bone inhibitor of bone resorption
                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2000-195084/17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bone regenerative; osteopathic; osseous.tissue; reconstitution; scaffold matrix; bone formation promoter; bone resorption inhibitor; cell adhesion; osteoblast; osteoclast; bone defect; fracture.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cell adhesion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY80488;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            vascular occlusions. The present sequence represents an integrin ligand dissociator (ILD) that can be used in the method of the invention.
                                                                                                                                                                                                matrix.
                                                                                                                                                                                                                                           bone
                                                                                                                                                                                                                                                                         The invention relates to a novel system for reconstitution of osseous
                                                                                                                                                                                                                                                                                                       Claim 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                Budny JA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             (PHAR-) PHARMACAL BIOTECHNOLOGIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22-JUL-1999;
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                                                                                                                                                                                             (II) inhibits proteolysis (specifically by plasmin) of extracellular matrix. (I) is preferably selected from: selectin or selectin binding
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1 eildv 5
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                                                                                                                                                                                                                             induces migration and adhesion of osteoblasts and osteoclasts and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              G
                                                                                                                                                                                                                                           formation and a component that decreases bone resorption (II).
                                                                                                                                                                                                                                                            comprising
                                                                                                                                                                                                                                                                                                      Page 32; 44pp;
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                                                                                                                                                                                                                                                            a scaffold carrying a compound (I) that
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Pred. No. 6.4e+05;
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                                         The scaffold can rate, and may
                                                                                                                                                                                                                                                                                                                                                    treating formation
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                                                                                                                                                                                                                              The invention relates to peptidomimetic compounds (AAY77415-Y77438) capable of inhibiting the binding of the VLA-4 integrin (alpha-4-beta-1, CD494/CD29) to the CS-1 portion (25 amino acids) of a splice variant of the extracellular matrix protein fibronectin (FN). VLA-4 is expressed on the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays an important role in the maturation and trafficking. VLA-4-mediated Leukocyte adhesion to the CS-1 FN of endothellal cells is also a critical step in the inflammatory response. The peptidomimetics of the invention may be used to treat both chronic and acute immunoinflammatory conditions, such as asthma, rheumatoid arthritis, osteoarthritis and allograft rejection. They may also be used to treat psoriasis and other skin inflammations, demyelinating diseases of the central nervous system (e.g., multiple sclerosis, ellipse).
                                                               immune response on repeated administration, or the 25-mer CS-1 peptide, which is large and costly to make and is subject to rapid proteolytic degradation. The peptidomimetics of the invention are smaller in comparison to the CS-1 peptide and therefore less expensive to manufacture, and are resistant to proteolysis. Sequences AAY77411-Y77414 and AAY77434-Y77444 represent fragments of the CS-1 peptide tested for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fibronectin; FN; CS-1; endothelial cell; VLA-4 integrin; alpha-4-beta-1; CD49d/CD29; leukocyte; inflammatory cell; inflammation; cell adhesion; inhibitor; peptidomimetic; autoimmune disease; inflammatory disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1442
                                                                                                                                                                (e.g., multiple sclerosis), allergies, atherosclerosis, colitis, diabetes, inflammatory bowel disease, kidney inflammation and restenosis. Prior art inhibition of VLA-4/CS-1 interaction either involves the use of anti-VLA-4 antibodies, which can themselves induce an
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cardiovascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New peptidomimetic compounds used as cell surface fibronectin expressing receptor and VLA-4 inhibitors for treating inflammatory and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Arrhenius TS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-JUL-1998;
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                                               ability to
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5; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fig 2; 243pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CS1-derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disorders
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                                                   inhibit VLA-4 Jurkat
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                                                   cells to
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hes 0;
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                                               immobilised CS-1 peptide
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Matches 5; Conser
                                                                                                                                                                                                                                                                                                                                        which contain the CS-1 domain. The novel compounds inhibit cell adhesion and consequent or associated pathogenic processes mediated by VrA-4, and may therefore be useful in the treatment and prevention of inflammatory, autoimmune, or respiratory disorders. These include asthma, arthritis, psoriasis, multiple sclerosis, transplant rejection, diabetes, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to novel arylalkyl and arylureidoalkyl azolylalkanolc acid derivatives and related compounds (I), and their salts and prodrugs. These are are integrin inhibitors, specifically of VLA-4 (very late antigen 4, also known as alpha-4-beta-1 or CD49d/CD29), which mediate cell adhesion. VLA-4 is a receptor for the cytokine-inducible cell surface protein VCAM-1 (vascular cell adhesion nolecule-1) and for the alternatively spliced forms of fibronectin (FN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VLA-4
                                                                                                                                                                                                                                                                          inflammatory bowel disease. Sequences AAY69618-Y69620 represent p derived from the VLA-4-binding domain of the FN CS-1 region which contain the LDV motif and are known to inhibit fibronectin-depend
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LDV peptide: VLA-4 inhibitor; very late antigen; alpha-4-beta-1; CD49d/CD29; cell adhesion; arylalkyl azolylalkanoic acid derivative; arylureidoalkyl azolylalkanoic acid derivative; inflammatory disorder; autoimmune disorder; respiratory disorder; LDV motif.
                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Page 2; 120pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Arylalkyl and arylureidoalkyl azolylalkanoic acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-JUN-1998;
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eildv
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Conservative (
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Pred. No.
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                                                                                           Mismatches
                                                                                                                                                                                                                                                                              inhibit fibronectin-dependent
                                                                                                                6.4e+05
                                                                                                                                      DB
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                                                                                                                                   Length 5;
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                                                                                                                                                                                                       alpha-4-subunit containing integrins or antagonists of alpha-1-subunit-containing integrins. In particular, the antagonists are antibodies specific for VLA-1 (very late antigen), alpha-1-beta-1 integrin) or VLA-4 (alpha-4-beta-1 integrin) which inhibit the interaction of the integrin and its cognate ligand (collagen I, collagen IV, and laminin in the case of VLA-1, and fibronectin and VCA-1 in the case of VLA-4). The method of the invention may be used to treat chronic renal failure, end-stage renal disease, chronic diabetic nephropathy, diabetic end-stage renal disease, chronic diabetic nephropathy, diabetic planerulopathy, diabetic renal hypertrophy, hypertensive nephrosclerosis, hypertensive glomerulosclerosis, chronic glomerulonephritis, hereditary nephritis or renal dysphasia. Sequences AAB73464-AAB7366 represent peptides derived from the VLA-4 binding domain (CS-1 region) of
                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to a method for treating a mammal with, or at risk of developing, chronic renal failure, involving the administration of at least one integrin antagonist. The integrin antagonists that may be used in the method include antagonists of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                very late antigen; antibody; kidney disease; chronic renal failure; end-stage renal disease; chronic diabetic nephropathy; diabetic glomerulopathy; diabetic renal hypertrensive nephrosclerosis; hypertensive nephrosclerosis; hypertensive glomerulosclerosis; hereditary nephritis; renal dysplasia; nephrotropic; cell adhesion inhibition; fibronectin CS-1 region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAB73465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Treating a mammal in, or at a rifailure, involves administering
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-273408/28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Allen A,
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                                                                                                                                              Sequence
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                                                                                                                                                                              ibronectin, which inhibit fibronectin-dependent cell adhesion, herefore be used in the method of the invention.
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5; Conserv
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                                                                  Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a risk of developing, chronic renal ring at least one integrin antagonist
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6.4e+05;
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                                                                                                                                                                                                                                                            bonds with amino/hydroxyl/thiol groups on blood components to form a peptidase stabilised therapeutic peptide composed of 3-50 amino acids. (I) are useful for modifying therapeutic peptides e.g. hormones, growth factors and neurotransmitters, to protect them from peptidase activity in vivo for the treatment of various disorders. Endogenous therapeutic peptides are not suitable as drug candidates as they require frequent administration due to rapid degradation by peptidases in the body. Modifying and attaching therapeutic peptides to albumin prevents or reduces the action of peptidases to increase length of activity (half life) and specificity as bonding to large molecules decreases intracellular uptake and interference with physiological processes. AAB90829 to AAB92441 represent peptides which can be used in the exemplification of the present invention.
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10-SEP-1999;
15-OCT-1999;
          AAB50876;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention describes a modified therapeutic peptide (I) comprising a therapeutically active amino acid region (III) and a reactive group (II) (e.g. succinimidy) and maleimido groups) attached a less therapeutically active amino acid region (IV), which covalently
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Modifying and attaching therapeutic peptides to albumin prevents peptidase degradation, useful for increasing length of in vivo a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bridon DP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
Synthetic.
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hydroxyl; thiol;
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                                       AAB50876 standard; peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Page 569;
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99US-0153406.
99US-0159783.
                                                                                                                                                                 100.0%; Score 23; DB 22; 100.0%; Pred. No. 6.4e+05; O. Mismatches 0;
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                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence is given in a specification relating to a copypeptide comprising a series of heptad-repeats that mimic a current commentation and a selected cytoplasmic domain attached to the current combinantly or at least a portion of the polypeptide is prepared crecombinantly or at least 1 heptad repeat in the series has a different camino acid sequence to other heptad repeat in the series. The competition of structural models which are cuseful for evaluating structure and activity of a selected occupied and collustered transmembrane protein having the selected cytoplasmic domain conditions of ridentifying therapeutic compounds. It is also useful for cresponses by contacting the structural model with paxillin or a cresponse by contacting the structural model with paxillin or a cresponse by contacting the structural model with paxillin or a cresponse by contacting the structural model with paxillin or a structural model. A decrease in binding in the presence of a test agent candidates that the test agent is an inhibitor of alpha4 integrin conditions that the test agent is an inhibitor of alpha4 integrin conditions such as inflammatory conditions such as inflammatory and service and asthma and in the presence in the best agent is an inhibitor of alpha4 integrin condition and asthma and in the presence and asthma and in the presence and basting a minimum and basing in the presence and asthma and in the presence and service and set man and in the presence and asthma and in the presence and basting a minimum and basing in the presence and basing in the presence and asthma and in the presence and asthma and in the presence and basing in the presence and basing in the presence and basing in the presence and asthma and in the presence and asthma and in the presence and asthma and the presence and service and asthma and in the presence and asthma and in the pr
                                                                                                                                                                                                                                                                                                                                          Query Match
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                                           21-MR-2001
                                                                                    AAB59135;
                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI;
Peptide #3 recognised by integrin.
                                                                                                                         AAB59135 standard; peptide; 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  heptad repeats
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     recognition
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 atherosclerosis and scarring during
                                                                                                                                                                                                                                                                                                                      Conservative
                                           (first entry)
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                                                                                                                                                                                                                                                                                                                                     100.0%;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                    . 6.4e+05;
ches 0;
                                                                                                                                                                                                                                                                                                                                                           BB
                                                                                                                                                                                                                                                                                                                                                           22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 wound healing.
                                                                                                                                                                                                                                                                                                                                                         Length 5;
                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                    0;
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Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  occupied and clustered transmembrane protein with the selected cytoplasmic domain and for identifying therapeutic compounds. It is also useful for identifying a cytoplasmic domain binding partner. It is may be used to study protein interactions with transmembrane proteins such as integrin, which can be used to treat conditions in which over activity of integrins is involved, such as inflammation,
                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention relates to a peptide with a series of heptad-repeats that mimic a transmembrane domain and a selected cytoplasmic domain attached to the heptad repeats. The invention is useful for evaluating structure and activity of a selected
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ginsberg
                                                                                                                             CD49d/CD29;
                                                                                                                                                                   Fibronectin CS1-derived peptide #34.
                                                                                                                                                                                                                        AAY77443;
                                                                                                                                                                                                                                               AAY77443 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Polypeptides useful in construction of structural models for identifying therapeutic compounds, comprises series of heptad repeats that mimic a transmembrane domain and cytoplasmic domain attached to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-MAY-1999;
                                     20-JAN-2000
                                                              WO200002903-A1
                                                                                         Mammalia
                                                                                                                   inhibitor;
                                                                                                                                          Fibronectin; FN; CS-1;
                                                                                                                                                                                              22-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                          thrombosis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-041143/05
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                                                                                                                 peptidomimetic;
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                                                                                                                               leukocyte;
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                                                                                                                             endothelial cell; VLA-4 integrin; alpha-4-beta-1;
inflammatory cell; inflammation; cell adhesion;
                                                                                                                   autoimmune disease;
                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                 Score 23; DB 22;
Pred. No. 6.4e+05;
; Mismatches 0;
                                                                                                                   inflammatory disorder
                                                                                                                                                                                                                                                                                                                                                                                         Length 5;
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15-DEC-1998;

98WO-US26605

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               15-DEC-1998;
                                                                                                                                                         Fibronectin; FN; CS-1; endothelial cell; VLA-4 integrin; alpha-4-beta-1; CD49d/CD29; leukocyte; inflammatory cell; inflammation; cell adhesion;
                                                                                                                                                                                                         Fibronectin CS1-derived peptide #35
                                                                                                                                                                                                                                                                                                         AAY77444 standard;
                                             20-JAN-2000
                                                                                                                                            CD49d/CD29;
inhibitor; p
                                                                                                                                                                                                                                            22-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Fig 2; 243pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New peptidomimetic compounds used as cell surface fibronectin expressing receptor and VLA-4 inhibitors for treating inflammatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-JUL-1998;
                                                                             WO200002903-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
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                                                                                                               Mammalia
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                                                                                                                                          peptidomimetic;
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             98WO-US26605
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                                                                                                                                                                                                                                                                                                         peptide; 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 23; DB 21;
Pred. No. 6.4e+05;
; Mismatches 0;
                                                                                                                                          disease;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CC capable of inhibiting the binding of the VA-4 integrin (alpha-4-beta-1, CC capable of inhibiting the binding of the VA-4 integrin (alpha-4-beta-1, CC CD49d/CD29) to the CS-1 portion (25 amino acids) of a splice variant of CC the surface lular matrix protein fibronectin (FN). VLA-4 is expressed on CC the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays an CC important role in the maturation and trafficking. VLA-4 mediated CC clukocyte adhesion to the CS-1 FN of endothelial cells is also a CC critical step in the inflammatory response. The peptidomimetics of the CC cinvention may be used to treat both chronic and acute immunoinflammatory conditions, such as asthma, rheumatoid arthritis, osteoarthritis and CC allograft rejection. They may also be used to treat psoriasis and other CC skin inflammations, demyelinating diseases of the central nervous system (e.g., multiple sclerosis), allergies, atherosclerosis, colitis, CC diabetes, inflammatory bowel disease, kidney inflammation and CC restenosis. Perior art inhibition of VLA-4/CS-1 interaction either CC involves the use of anti-VLA-4 antibodies, which can themselves induce an immune response on repeated administration, or the 25-mer CS-1 peptide, CC which is large and costly to make and is subject to rapid proteolytic degradation. The peptidomimetics of the invention are smaller in CC comparison to the CS-1 peptide and therefore less expensive to their ability to inhibit VLA-4 Jurkat cells to immobilised CS-1 peptide (CAAY774410).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local :
                                                                                                                                                          Chimeric; adenovirus; fiber protein; binding; targeting; coat protein; constrained peptide motif; gene therapy; cancer; heart disease;
                                                                                                                                                                                                                                                                                                              AAW56065 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New peptidomimetic compounds used as cell expressing receptor and VLA-4 inhibitors:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-JUL-1998;
                                                              WO9807865-A1
                                                                                               Mastadenovirus
                                                                                                             Synthetic
                                                                                                                                                autoimmune disorder.
                                                                                                                                                                                                             Alpha4 integrins targeting sequence SEQ ID NO:80
                                                                                                                                                                                                                                                 29-JUL-1998
                                                                                                                                                                                                                                                                                  AAW56065;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 23; DB 21;
Pred. No. 6.4e+05;
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for treating inflammatory
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                                                                                                                                                                                                                                                                    Fibronectin; extracellular matrix receptor; ECMR: type III; connecting segment; IIICS; adhesion; alpha4beta1; lymphocyte; autoimmune disease; allergy; asthma; ligand.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  used for gene therapy, for treating cancer, e.g. melanoma, glioma and lung cancers as well as genetic disorders, e.g. cystic fibrosis, haemophilia and muscular dystrophy as well as pathogenic infections, e.g. HIV, tuberculosis and hepatitis and also for heart disease, to e.g. prevent restenosis following angioplasty or to promote angiogenesis to reperfuse necrotic tissue, and in autoimmune disorders, e.g. Crohn's disease, colitis, rheumatoid arthritis, and Alzheimer's disease.
Inhibition of lymphocyte adherence using a novel antibody or peptide 1
                                    WPI; 1991-101865/14.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chimeric adenovirus fibre proteins - containing non-native amino acid sequence to provide for binding and entry into cells, especially for gene therapy
                                                                                                                                01-SEP-1989;
                                                                                                                                                          31-AUG-1990;
                                                                                                                                                                                                                 W09103252-A
                                                                                                                                                                                                                                            Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence represents an alpha4 integrins targeting sequence, which is used in an example from the present invention. The present invention describes a chimeric adenovirus fibre protein (AFP) containing a constrained non-native amino acid sequence. The non-native amino acid
                                                                       Wayner E;
                                                                                                   (WAYN/) WAYNER
                                                                                                                                                                                      21-MAR-1991
                                                                                                                                                                                                                                                                                                                             Peptide
                                                                                                                                                                                                                                                                                                                                                                                                             AAR11361 standard; peptide; 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1998-169169/15
                                                                                                                                                                                                                                                                                                                                                                                     AAR11361;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence allows the chimeric fibre (or a vector comprising the chimeric fibre) to more efficiently bind to and enter cells. The products can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 8; Page 57; 124pp; English.
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                                                                                                                                                                                                                                                                           The peptide is derived the CS-1 peptide (Humphries et al., 198 J. Biol. Chem. 262:6886-6892), from the IICS variable region fibronectin. The peptide inhibits binding of lymphocytes to endothelial cells preventing migration through the vascular endothelium and into tissues. It acts by blocking the alpha4
                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                          Claim 10; Page 74; 92pp; English.
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ribosomal protein
lactin I receptor be
T-cell receptor be

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C;Species: Escherichia coli
C;Date: 17-Jul-1994 #sequence_revision 17-Jul-1994 #text_change 07-May-1999
C;Accession: A61300
R;Kishi, F.; Ebina, Y.; Miki, T.; Nakazawa, T.; Nakazawa, A.
J. Biochem. 92, 1059-1068, 1992
J. Biochem. 92, 1059-1074 characterization of a protein from Escherichia co
                                                                                        R;Olsson, P.E.; Kling, F
Eur. J. Biochem. 230, 34
A;Title: Structural and
                                                                                                                                        metallothionein-A - rainbow trout (fragment)
C;Speckes: Oncorhynchus mykiss (rainbow trout)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996
C;Accession: I51049
A; Molecule type: DNA
A; Residues: 1-4 <OLS>
A; Cross ! references: E
                                         A;Reference number: I51049;
A;Accession: I51049
A;Status: preliminary; trans
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                                                                                                                                                                                                                                                                                                                                                                                                      A;Experimental source: newborn thymus, strain BALB/cC;Keywords: T-cell receptor
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A; Residues: 1-5 <FEE>
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A;Residues: 1-4 <KIS>
C;Comment: This protein resembles
C;Keywords: DNA binding; monomer
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EMBL: x80181; NID:g1019799; PIDN:CAA56466.1; PID:g4379328
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R;Shively, J.; Reeve Jr., J.R.; Eysselein, V.E.; Ben-Avram, C. Am. J. Physiol. 252, G272-G275, 1987
A;Title: CCK-5: sequence analysis of a small cholecystokinin A;Reference number: A32516; MUID:87153871
A;Accession: A32516
A;Molecule type: protein A;Residues: 1-5 CSHID
C;Comment: This peptide corresponds to the five carboxyl-term C;Comment: This peptide
20K protein - Rickettsia rickettsii (fi
;Species: Rickettsia rickettsii
C;Date: 31-Mar-1990 #sequence_revision
C;Accession: B31836
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A32516
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N;Alternate names: superprotein peptide 1
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 31-Mar-1993 #sequence_revision 18-Nov-1994 #C;Accession: E44823
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E44823
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C;Date: 18-Oct-1989 #sequence_revision 18-Oct-1989 #text_change 18-Aug-2000
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A; Experimental source: visual tissue
A; Note: sequence extracted from NCBI backbone
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                                                                                                                                                                                                                                                                                                                                                                                                                                         N; Alternate names: CCK-5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Keywords: membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Status: preliminary
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Title: The major 35S-methionine-labeled A; Reference number: A44823; MUID:92044785
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sci. 11, 3412-3421,
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1; Conserv
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                                           Rickettsia rickettsii (fragment)
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121, 1991
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Pred. No. 2.86
1; Mismatches
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Pred. No. 2.86
2; Mismatches
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2.8e+0
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2.8e+05;
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#text_change

28-May-1999

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J. Bacteriol. 170, 4493-4500, 1988
A;Title: Expression of the gene encoding A;Reference number: A91885; MUID:89008059
A;Accession: B31836
A;Molecule F....
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                                                                                                                                                                                                                                       R;Robinson, K.; Jones, D.; Howell, S.; Soneji, Y.; Martin, S.; Aitken, A. Blochen. J. 307, 267-272, 1995
A;Title: Expression and characterization of maize ZBP14, a member of a new A;Reference number: S55237; MUID:95234046
A;Accession: S55237
A;Molecule type: protein
A;Residues: 1-5 < ROB>
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C;Species: Cavia porcellus (guinea pig)
C;Date: 10-Sep-1987 #sequence_revision 10-Sep-1987 #text_change 03-Mar-1995
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Ig heavy chain CRD3 region (clone 4-88) - C; Species: Homo sapiens (man)
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c;Species: Zea mays (maize)
C;Date: 27-Oct-195 #sequence_revision 03-Nov
C;Accession: S55237
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Best Local Similarity
Matches 1; Conserv
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Pred. No. 2.8e
1; Mismatches
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Pred. No. 2.8e+05
1; Mismatches
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Pred. No. 2.8e+05
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              human (fragment)
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protein D - Escherichia coli (fragment)
C;Species: Escherichia coli
C;Species: So-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 30-Sep-1993
C;Accession: A41890
R;Slettan, A.; Gebhardt, K.; Kristiansen, E.; Birkeland, N.K.; Lindqvist, B
J. Bacteriol. 174, 4094-4100, 1992
A;Title: Escherichia coli K-12 and B contain functional bacteriophage P2 og:
A;Reference number: A41890; MUID:92283767
A;Accession: A41890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R:Shiuan, D.; Campbell, A. Gene 67, 203-211, 1988
A;Title: Transcriptional regulation and gene arrangement
A;Reference number: I40697; MUID:89006280
A;Accession: I40697
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A; Residues: 1-5 < YAM>
A; Experimental source: B lymphocyte
C; Keywords: heterotetramer; immunog:
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A; Title: Preferential utilization of specific immunoglobulin A; Reference number: PT0222; MUID:91108337
A; Accession: PT0278
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A41890
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C;Species: Citrobacter freundii
C;Date: 12-Aug-1996 #sequence_revision 12-Aug-1996 #text_change 12-Aug-1996
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C;Accession: PT0278
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                                                                                                                       A;Cross-references: GB:M81463
                                                                                                                                     A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-4 <SLE>
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A; Residues: 1-4 < RES
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Pred. No. 2.8e+05;
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A;Reference number: PT0222; MUID:91108337
A;Accession: PT0271
A;Molecule type: DNA
                                                                                         C:Species: Homo sapiens (man)
C:Date: 30-Sep-1993 #sequence_revision
C:Accession: PT0271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    achatin-I - giant African snail
N;Contains: achatin-II
C;Species: Achatina fulica (giant African snail)
C;Date: 12-Oct-1989 #sequence_revision 12-Oct-1989 #text_change 17-Mar-1999
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D41654
hypothetical protein (sodC 5' region) -
hypothetical protein (sodC 5' region) -
C;Species: Haemophilus parainfluenzae
C;Date: 12-Jun-1992 #sequence_revision
C;Accession: D41654
                                              R; Yamada, M.; Wasserman, R.; Reichard, B.A.; Shane, S.; Caton, J. Exp. Med. 173, 395-407, 1991
A; Title: Preferential utilization of specific immunoglobulin he
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A32480
                                                                                                                                      RESULT 14
PT0271
Ig heavy chain CRD3 region (clone 3-103A) - human (fragment)
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                                                                                                                                                                                                                                                                                                                                                                         (H-Gly-Phe-Ala-Asp-OH).
A;Reference number: A44691; MUID:92354723
A;Contents: annotation; X-ray crystallography,
A;Note: achatin-II has L-phenylalanine
C;Keywords: D-amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R;Kamatani, Y.; Minakata, H.; Kenny, P.T.M.; Iwashita, T.; Wate Biochem. Biophys. Res. Commun. 160, 1015-1020, 1989 A;Tille: Achatin-I, an endogenous neuroexcitatory tetrapeptide A;Reference number: A32480; MUID:89273551
                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Note: stereochemistry of the active form confirmed by chemical synthesis R; Ishida, T.; In, Y.; Inoue, M.; Yasuda-Kamatani, Y.; Minakata, H.; Iwashi FEBS Lett. 307, 253-256, 1992
A; Title: Effect of the D-Phe(2) residue on molecular conformation of an end.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Accession: A32480
R; Kamatani, Y.; Minakata,
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A; Residues: 1-4 < KRO>
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A;Accession: D41654
A;Status: preliminary
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J. Bacteriol. 173, 7449-7457, 1
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A; Residues: 1-4 <RES>
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1;Gene: NF2
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C;Accession: I5435;
C;Accession: I5435;
R;Huynh, D.P.; Nechiporuk, T.; Pulst, s.
Hum. Mol. Genet. 3, 1075-1079, 1994
A;Title: Alternative transcripts in the mouse neurofibromatosis
A;Reference number: I54357; MUID:95072570
A:Accession: I54357
A:Accession: I54357
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A; Sholecule type: DNA
A; Residues: 1-4 <HAR>
A; Residues: 1-4 <HAR>
A; Cross-references: GB: $60737; NID: $9233916; PIDN: AAB19518.1; PID: $233918
A; Cross-references: GB: $60737; NCBI backbone (NCBIN: 60737, NCBIP: 60738)
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A; Experimental source:
C; Keywords: heterotetra
                                                                                                                                                                                                                                                                                schwannomin - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MO1. Immunol. 28, 881-888, 100.
A; Title: Evolutionarily conserved organization
....farance number: A53284; MUID:91342695
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C;Date: 02-May-1994 #sequence_revision 18-Nov-1994
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28, 881-888, 1991
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llarity 100.0%
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R; Feeney, A.J.

J. Exp. Med. 174, 115-124, 1991
A; Title: Junctional sequences of fetal T of the sequences of the seque
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C;Date: 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change 30-May-1997
C;Accession: PT0635; PT0612; PT0545; PT0692; PT0552; PT0696
                                                                                         A: Molecule type: DNA
A: Residues: 1-4 <FE2>
A: Experimental source:
A: Accession: PT0678
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A;Status: translation not
A;Molecule type: DNA
A;Residues: 1-4 <FE3>
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A; Residues: 1-4 <FEl>
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C;Species: Mus musculus (house mouse)
C;Date: 17-Jull-192 #sequence_revision 17-Jul-192 #text_change 30-May-1997
C;Accession: PT0607; PT0674; PT0678; PT0570; PT0711; PT0710
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A;Residues: 1-4 <FE6>
A;Experimental source: newborn thymus, strain BALB/c,
C;Keywords: T-cell receptor
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A; Residues: 1-4 <FE5>
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A; Residues: 1-4 <FE4>
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A; Residues: 1-4 <FE2>
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hes 1; Conserv
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llarity 100.0%;
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0; Mismatches
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                                                                                                                                     strain BALB/c, 140-16
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RESULT
C23751
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C;Species: Sus scrofa domestica (domestic pig)
C;Date: 28-Sep-1987 *sequence_revision 28-Sep-1987 *text_change 18-Aug-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Superfamily: phosphorylase C;Keywords: glycosyltransferase; hexosyltransferase; phosphoprotein F;3/Binding site: phosphate (Ser) (covalent) (by phosphorylase b kinase)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Bonamusa, L.; Baanante, I.V.
Comp. Biochem. Physiol. B 95, 295-301, 1990
A;Title: Purification and characterization of
A;Reference number: A60521; MUID:90227907
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A60521
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                                                                                                        A; Residues: 1-5
C; Superfamily:
                                                                                                                                                                                                              C; Accession: C23751
R; Hsi, K.L.; Chen,
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C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 11-May-2000
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A; Residues: 1-4 <FE4>
                   Query Match
Best Local Similarity
Watches 1; Conserv?
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Arch. Biochem. Biophys. 240, 1/0-100, -
N. Doforence number: A23751; MUID:85250425
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A; Residues: 1-4 <FE5>
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                                                                                                                                                                 A; Reference number: A; Accession: C23751
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nilarity 100.0%;
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78-183, 1985
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%; Pred. No. 2.8
0; Mismatches
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1; Mismatches
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                          DB 2; L., 10. 2.8e+05; 0;
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R:Inamoto, S.; Yoshioka, Y.; Ohtsubo, E.
J. Bacteriol. 170, 2749-2757, 1988
A:Title: Identification and characterizati.
A;Reference number: A32014; MUID:88227859
A;Accession: A32014
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-5 <INA>
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C;Species: Escherichia coli
C;Date: 22-Jun-1989 #sequence_revision 22-Jun-1989 #text_change 16-Feb-1997
C;Accession: A32014
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C; Superfamily: unassigned animal peptides
C; Keywords: blocked amino end; pyroglutamic acid
F;1/Modified site: pyrrolidone carboxylic acid (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mitosis inhibiting peptide - mouse
C;Species: Mus musculus (house mouse)
C;Date: 19-Nov-1988 #sequence_revision
                A;Genome: p
C;Keywords:
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A; Residues: 1-5 <BRA>
A; Cross-references: GB:M63747
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A;Title: Evidence for a methylation-blocking factal;Reference number: A37325; MUID:91154136
A;Accession: B37325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pap fimbrial regulatory protein papI - Escherichia coli (fragment)
C;Species: Escherichia coli
C;Date: 11-Sep-1992 #sequence_revision 11-Sep-1992 #text_change 23-Mar-1993
C;Accession: B37325
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B37325
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Similarity 100.0%;
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33.3%;
                                                                                                                              characterization MUID:88227859
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Pred. No. 2.8e
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C;Accession: S70615
R;Rao, M.; Khadilkar, S.; Bandivadekar, K.R.; Deshpande,
Blochem. J. 316, 771-775, 1996
A;Title: Structural environment of an essential cysteine
A;Reference number: S70615; MUID:96265041
                                                                                           A; Variety: Chainia sp. NCL 82.5.1
C; Date: 19-Mar-1998 #sequence_revision
                                                                                                                           N;Alternate names: xylanase C;Species: Streptomyces sp.
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C;Accession: D60274
R;Nagal, S.; Wiker, H.G.; Harboe, M.; Kinomoto, Infect. Immun. 59, 372-382, 1991
A;Title: Isolation and partial characterization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R:Nagai, S.; Wiker, H.G.; Harboe, M.; Kinomoto, M.
Infect. Immun. 59, 372-382, 1991
A;Title: Isolation and partial characterization of major protein antigens in the cult A;Reference number: A60274; MUID:9109989
A;Accession: B60274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                major protein antigen MPT32 - Mycobacterium tuberculosis
C;Species: Mycobacterium tuberculosis
C;Date: 11-Dec-1992 #sequence_revision 11-Dec-1992 #text
                                                                                                                                                                                                                                                                                     C; Date: 11-Dec-1992 #sequence_revision
                                                                                                                                                               A; Residues:
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                                                                                                                                                                                                     A; Reference number: A60274; A; Accession: D60274
                                                                                                                                                                                                                                                                                                    major protein antigen MPT46 - Mycobacterium tuberculosis
C; Species: Mycobacterium tuberculosis
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larity 100.0%;
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essential cysteine

residue of xylanase

from

Cha

17-Apr-1998 #text_change

07-May-1999

Streptomyces sp.

(Chainia

sp.

NCL

82.5.1) (frag

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A; Accession: $70615
A; Molecule type: protein
A; Residues: 1-5 <RAO>
A; Experimental source: Chainia sp. strain NCL 82.5.1
A; Note: the source is designated as Chainia sp.
C; Function:
                                                                                                                                                                                                                                          C:Accession: PQ0689

R:Obokata, J.; Mikami, K.; Hayashida, N.; Nakamura, Plant Physiol. 102, 1259-1267, 1993

A:Title: Molecular heterogeneity of photosystem I. F. A:Reference number: PQ0667; MUID:94105345

A:Accession: PQ0689
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PQ0689
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A;Title: CPRF4a, a novel plant bZIP protein of the CPRF family: A;Reference number: 218261; MUID:98265918
A;Accession: T14908
A;Status: preliminary; translated from GB/EMBL/DDBJ
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                                                                                                                                                                                       A;Molecule type: protein
A;Residues: 1-5 <OBO>
C;Keywords: chloroplast; photosynthesis; photosystem I;
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C:Species: Nicotiana tabacum (common tobacco)
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C;Species: Petroselinum crispum (parsley)
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 21-Jul-2000
C;Accession: T14908
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A; Residues: 1-5 <KIR>
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Pred. No. 2.8e
2; Mismatches
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A;Accession: PT0281
A;Molecule type: DNA
A;Residues: 1-5 <YAM>
A;Experimental source: B lymphocyte
C;Keywords: heterotetramer; immunoglobulin
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C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 16-Aug-1996
C;Accession: PT0281
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A;Residues: 1-5 <YAM>
A;Experimental source: B lymphocyte
C;Keywords: heterotetramer; immunoglobulin
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A;Title: Preferential utilization of specific immunoglobulin heavy chain diversity A;Reference number: PT0222; MUID:91108337
A;Accession: PT0267.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ig heavy chain CRD3 region (clone 3-94A) - human (fragment) C;Species: Homo sapiens (man) C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_ch C;Accession: PT0267
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A; Residues: 1-5 <OHT>
C; Keywords: amidated carboxyl end; D-amino acid; neuropeptide
F; 2/Modified site: D-asparagine (Asn) #status experimental
F; 5/Modified site: amidated carboxyl end (Val) #status experimental
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C;Species: Achatina fulica (giant African snail)
C;Date: 23-Mar-1995 #sequence_revision 05-Apr-1995 #text_change 11-Jul-1997
C;Accession: A44692
                                                                                                                                                                                                       A; Title: Preferential utilization of specific immunoglobulin heavy chain diversity A; Reference number: PT0222; MUID:91108337
                                                                                                                                                                                                                                              R:Yamada, M.; Wasserman, R.; Reichard, B.A.;
J. Exp. Med. 173, 395-407, 1991
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Ig heavy chain CRD3 region (clone 4^{\frac{1}{2}}-91C) - human (fragment)
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Biophys. Res. Commun. 178, 486-493, 1991
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T-cell receptor beta chain V-D-J region (100-4AL) - mouse (fragment) C;Species: Mus musculus (house mouse) C;Decies: Nus musculus (house mouse) C;Date: 17-Jul-1992 #sequence_revision 17-Jul-1992 #text_change 30-May-1997 C;Accession: PT0513; PT0606
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PT0513
                 R; Feeney, A.J.
J. Exp.-Med. 174, 115-124, 1991
A; Title: Junctional sequences of
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J. Exp. Med. 174, 115-124, 1991
J. Exp. Med. 174, 115-124, 1991
A; Title: Junctional sequences of fetal T cell receptor
A; Reference number: PT0509; MUID:91277601
A; Recession: PT0596
A; Status: translation not shown
A; Molecule type: mRNA
A; Residues: 1-5 <FEE>
A; Reference number:
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A;Status: translation not shown
A;Molecule type: mRNA
A;Residues: 1-5 <FE2>
A;Residues: 1-5 <FE2>
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C;Date: 17-Jul-1992 #sequence_revision 17-Jul-1992
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A;Residues: 1-5 <YAM>
A;Experimental source: B lymphocyte
C;Keywords: heterotetramer; immunoglobulin
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A;Title: Preferential utilization of specific immunoglobulin heavy chain diversity A;Reference number: PT0222; MUID:91108337
A;Accession: PT0308
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C;Date: 30-Sep-1993 #sequence_revision
C;Accession: PT0308
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A;Molecule type: mRNA
A;Residues: 1-5 <FEE>
A;Experimental source: newborn thymus, strain BALB/c
C;Keywords: T-cell receptor
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A; Title: Junctional sequences of fetal T cell
A; Reference number: PT0509; MUID:91277601
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A; Residues: 1-5 <FE2>
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Copyright (c) 1993 - 2000 Compugen Ltd.
                                  SUMMARIES
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"The maize two dimensional gel protein database: towards an genome analysis program.";
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NCBI_TaxID=4577;
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Aust. J. Chem. 49:955-963(1996).
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Pred. No. 1e+C
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Neobatrachia; Bufonoidea;
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le+05;
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RESULT 5
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MOD_RES
SEQUENCE
                                                                                                          Eukaryota; Metazoa; Molincirrata; Octopodidae; NCBI_TaxID=89766;
                                                                                                                                                                                          01-MAR-2002 (Rel.
01-MAR-2002 (Rel.
01-MAR-2002 (Rel.
                                                                                                                                                                                                                                                 OCP1_OCTMI
P58648;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (H-Gly-D-Phe-Ala-Asp-OH), an endogenous neuropeptide containing a D-amino acid residue.";
Int. J. Pept. Protein Res. 39:258-264 (1992).
Int. J. Pept. Protein Res. 39:258-264 (1992).
-!- FUNCTION: NEUROEXCITATORY PEPTIDE; INCREASES THE IMPULSE FREQUENCY -!- FUNCTION: NEUROEXCITATORY DEPTIDE; OF THE IDENTIFIED HEART EXCITATORY NEURON (PON), ALSO ENHANCES THE AMPLITUDE AND FREQUENCY OF THE HEART BEAT. HAS ALSO AN EFFECT ON SEVERAL OTHER MUSCLES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biochem.
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STRAIN-FERUSSAC; TISSUE-Ganglion;
MEDLINE-8273551; PubMed-2597281;
                                                                                                                                                             Cardioactive peptides (Octopus minor (Octopus)
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Ishida T., In Y., Do
Iwashita T., Nomoto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fujimoto K., Kubota I., Yasuda-Kamatani Y., Minal
Yoshida M., Harada A., Muneoka Y., Kobayashi M.;
"Purification of achatin-I from the atria of the
Achatina fulica, and its possible function.";
Biochem. Biophys. Res. Commun. 177:847-853(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Mollus Achatinacea; Achatinidae; NCBI_TaxID=6530;
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Achatina fulica
"Cardioactive peptides Octopus minor.";
                                               PubMed=10876044;
                                                                TISSUE-Brain
                                                                              SEQUENCE, SYNTHESIS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-FERUSSAC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Achatin-I, an endogenous neuroexcitatory tetrapeptide fulica Ferussac containing a D-amino acid residue."; Biochem. Biophys. Res. Commun. 160:1015-1020(1989).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kamatani Y.,
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15-JUL-1998
                              Iwakoshi E., Hisada M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Crystal structure and molecular conformation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-91264856;
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ilarity 100.
Conservative
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. 41, Last anno
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Doi M., Inoue M.,
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36,
                                                                                                                                             Mollusca; Cephalopoda; Coleoidea;
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Last annotation updat
Ocp-1/Ocp-2.
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Last annotation updat
               isolated
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                              Minakata
                                                                                SPECTROMETRY,
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6AADD9C810000000 CRC64;
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                                                                                CHARACTERIZATION
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               Japanese octopus
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01-MAR-2002 (Rel. 41, Last sequence up
01-MAR-2002 (Rel. 41, Last annotation
Cardioactive peptides Ocp-3/Ocp-4.
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Incirrata;
  Citrobacter
                                        aminotransferase)
                                                01-JAN-1990 (Rel. 13, Created)
01-JAN-1990 (Rel. 13, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation update)
Adenosylmethionine-8-amino-7-oxononanoate aminotransferase
(EC 2.6.1.62) (7,8-diamino-pelargonic acid aminotransferase
                                                                                                                                                              BIOA_CITFR P13071;
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Octopus minor.";
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SUBCELLULAR LOCATION: Secret.
PTM: Ocp-2 has L-Phe instead
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FUNCTION: Cardioactive; has both inotropic effects on the heart. C
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1; Conserv
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Similarity 100.0%
1; Conservative
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  Metazoa; Moll
  Octopodidae;
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nilarity 100.08;
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                                                                                                    "Identification and characterization of and tray genes of plasmid R100.";
J. Bacteriol. 170:2749-2757(1988).
-i- FUNCTION: TRANSFER GENE PROTEIN. IS PROCESS OF BACTERIAL CELLS FOR THE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Citrobacter
                     This SWISS-PROT entry is copyright.

    -!- SUBCELLULAR LOCATION: Cytoplasmic.
    -!- SIMILARITY: TO TRAM PROTEIN OF OTHER PLASMIDS.

                                                                                                                                                                                                          MEDLINE=88227859; PubMed=2836369; Inamoto S., Yoshioka Y., Ohtsubo
                                                                                                                                                                                                                                                                                           Escherichia.
NCBI_TaxID=562;
                                                                                                                                                                                                                                                                                                                                                            Escherichia coli.
Plasmid IncFII R100
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           or send an email to license@isb-sib.ch).
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European Bioinformatics Institute. The
by non-profit institutions as long
lifted and this statement is not removed.
ities requires a license agreement (See
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COFACTOR: PYRIDOXAL PHOSPHATE.
PATHWAY: BIOTIN BIOSYNTHESIS.
SUBUNIT: HOMODIMER.
SIMILARITY: BELONGS TO CLASS-I
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IPR000954; Aminotran_3.
ps00600; AA_TRANSFER_CLASS_3; PARTIAL.
ps00600; AA_TRANSFER_S; Aminotransferase;
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O1-OCT-1994 (Rel. 30, Created)

O1-OCT-1994 (Rel. 30, Last sequence update)

30-MAY-2000 (Rel. 39, Last annotation update)

Unknown protein from 2D-page from elementary body (1)

Chlamydia trachomatis.

Bacteria; Chlamydiales; Chlamydiaceae; Chlamydia.

NCBL_TaxID=813;
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POZ731;

21-JUL-1986 (Rel. 01, Create
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21-JUL-1986 (Rel. 01, Last s.
21-JUL-1986 (Rel. 01, Last s.
Eosinophilotactic peptides.
Homo sapiens (Human).
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  SEQUENCE.

MEDLINE-76078412; PubMed-1060093;

Goetzl E.J., Austen K.F.;

Goetzl E.J., and synthesis of eo
                                                                                                 Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates; NCBI_TaxID=9606;
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Bini L., Santucci
Comanducci M., Ch
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PIR; A32014; A32014.
Conjugation; Plasmid; DNA-binding.
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Christianen
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Last annotation update)
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Catarrhini; Hominidae
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Birkelund
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No.
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                                                                                                                        Hominidae;
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Vtretou E., Ratti
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                        RE21_LITRU STANDARD; PRT; 5 AA.

P82071;
01-MAR-2002 (Rel. 41, Created)
01-MAR-2002 (Rel. 41, Last sequence update)
01-MAR-2002 (Rel. 41, Last annotation update)
Rubellidin 2.1.
Rubellidin 2.1.
Litoria rubella (Desert tree frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphhbia; Batrachia; Anura; Neobatrachia; Bufonoidea; Hylidae;
                                                                                                                     LT 12
LITRU
                                                                                                                                                                                                                                                                                                              TISSUE=Skin secretion;
TISSUE=Skin secretion;
Wabnitz P.A., Bowie J.H., Tyler M.J.,
"Peptides from the skin glands of the
"Peptides from the skin glands of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _LITRU
                                                                                                                                                                                                                                                                                      Aust.
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01-MAR-2002 (Rel.
01-MAR-2002 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Proc. Natl. Acad. Sci. U.S.A. 72:4123-4127(1975).

-i- MISCELLANEOUS: THESE PEPTIDES ARE RELEASED FROM MAST CELLS

-i- MISCELLANEOUS: DURING HYPERSENSITIVITY REACTIONS

(AND OTHER TISSUES) DURING HYPERSENSITIVITY AFFECTING

(ANAPHYLAXIS). THEIR ACTIVITIES, PREFERENTIALLY AFFECTING

EOSINOPHIES, INCLUDE CHEMOTAXIS, CHEMOTACTIC DEACTIVATION,
                                                                                                                                                                                                                                                                                                                                                                                               Litoria rubella (Desert tree 1
Eukaryota; Metazoa; Chordata;
Amphibia; Batrachia; Anura; Ne
                                                                                                                                                                                                                                                                Amphibian skin; Amidation. MOD_RES 5
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P82100;
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VARIANT
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                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
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llarity 100.0%;
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annotation
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1; Mis
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a; Craniata; Vertebrata; E
Neobatrachia; Bufonoidea;
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/FTId=VAR_005201.
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Mismatches
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Australian bus
skin peptides
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1e+05;
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NCBI_TaxID=104895; [1]

Litoria

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RESULT RESULT OF STANDARD RESULT RESULT OF STANDARD RESULT RESULT
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Best Local :
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01-MAR-2002
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Rubellidin 3
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Steinborner S.T., Wabnitz P.A., Waugh R.J., Bowie
Tyler M.J., Wallace J.C.;
"The structure of new peptides from the Australin
'Litoria rubella'. the skin peptide profile as a p
of evolutionary trends of amphibians.";
Aust. J. Chem. 49:955-963(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "The structure of new peptides from the Aust ('Litoria rubella', the skin peptide profile of evolutionary trends of amphibians."; Aust J. Chem. 49:955-963(1996).
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-I- TISSUE SPECIFICITY: SECRETED
-I- GERCTROMETRY: MM-626; MF
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SEQUENCE 5 AA;
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TISSUE-Skin
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MOD_RES 5
SEQUENCE 5 AA;
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Steinborner S.T., Wabnitz P.A.,
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Eukaryota; Metazoa; Chordata; Craniata; V
Amphibia; Batrachia; Anura; Neobatrachia;
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-!- MASS SPECTROMETRY: MW=655; MI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tyler M.J., Wallace J.C.;
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     FMRFamide-like
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(Rel.
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(Rel. 41, Last sequence up
(Rel. 41, Last annotation
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al. 32, Created)
al. 32, Last sequence update)
al. 32, Last annotation update
neuropeptide YLRF-amide.
                                                                                               STANDARD;
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Pred. No.
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Mismatches
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a; Bufonoidea;
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P42561;
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Evans B.D., Pohl J., Kartsonis M.A., Cala
"Identification of Rfamide neuropeptides
Peptides 12:897-908(1991).
-!- SIMILARITY: BELONGS TO THE FARP (FMRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hirudo medicinalis (Medicinal lee
Eukaryota; Metazoa; Annelida; Cli
Arynchobdellida; Hirudiniformes;
NCBI_TaxID=6421;
[1]
                                                                                                                                                                                                                                                                                                   Hirudo medicinalis (Medicinal leech), and Helisoma trivolvis (Snail).

Eukaryota; Metazoa; Annelida; Clitellata; Hirudinida; Hirudinea; Arynchobdellida; Hirudiniformes; Hirudinidae; Hirudo.

NCBI_TaxID-6421, 27815;
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MEDLINE=92195954; PubMed=1686933;
MEDLINE=92195954; PubMed=1686933;
Evans B.D., Pohl J., Kartsonis'M.A.,
"Identification of Reamide neuropepti
"peptides 12:897-908(1991).
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Clitellata; Hirudinida;
es; Hirudinidae; Hirudo.
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kidney
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PubMed-8397415;
McFarlane I.D., Hudman D., Nothacker H.-P., Grimmelikhuijzen McFarlane I.D., Hudman D., McGarlane I.D., Hudman D., Hud
                                                                                                                                                                                                                                                                                                               Grimmelikhuijzen C.J.P.;
"Isolation of two novel neuropeptides from sea anemones:
biologically active L-3-phenyllactyl-Tyr-Arg-Ile-NH2 and
des-phenyllactyl fragment Tyr-Arg-Ile-NH2.";
Peptides 12:1165-1173(1991).
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01-MAR-2002 (Rel. 41, Last sequence upda
01-MAR-2002 (Rel. 41, Last annotation up
Antho-Riamide I [Contains: Antho-Riamide
Anthopleura elegantissima (Sea anemone).
Eukaryota; Metazoa; Cnidaria; Anthozoa;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antho-RNamide.
Anthopleura elegantissima (Sea anemone).
Eukaryota; Metazoa; Cnidaria; Anthozoa;
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01-MAR-2002 (Rel.
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Nothacker H.-P.,
  MOD_RES
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NCBI_TaxID=6110;
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01-MAR-2002
                                                                                                                                                                            inhibitory neuropeptides, Antho-KAamide and Antho-RIa
Proc. R. Soc. Lond., B, Biol. Sci. 253:183-188(1993).
                                                                                                                                                                                                                                                                                  FUNCTION
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                                                                         SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Neuron-specific
                                                                                                                                                       FUNCTION: Inhibits spontaneous
                                                                                                                    groups. May be involved in the behaviour in sea anemones.
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allatostatin superfamily in the shore crab
Eur. J. Biochem. 250:727-734(1997).
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SEQUENCE
                                             Thorpe A.;
"Isolation and identification in the second sec
                                                                                                                                                                                           Eukaryota; Metazoa; Arthropoda;
Eumalacostraca; Eucarida; Decapo
Eubrachyura; Portunoidea; Portur
                                                                                                                                                                                                                                                                                                                                                                   CARMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PIR;
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Saccharomycetales;
NCBI_TaxID=4932;
                                                                                                          TISSUE-Cerebral ganglion, and Thoracic MEDLINE-98121193; PubMed=9461295;
                                                                                                                                                                                                                                               Carcinus maenas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Extended N-terminal sequencing subunit from yeast mitochondria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Grohmann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=91285106;
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                                                                                           Duve H.,
                                                                                                                                             SEQUENCE.
                                                                                                                                                                             NCBI_TaxID=6759;
                                                                                                                                                                                                                                                                                                                                                  AL14_CARMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ribosomal protein; Mitochondrion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Grohmann L.,
Kitakawa M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
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$17255; $17255.
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Ascomycota; Saccharomycotina; Sacci
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                                                                                           Α.Η.,
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39,
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ck H.-R., Kruft
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29, Last sequence update)
29, Last annotation updat
ribosomal protein L1 (YmL
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                                                                                           Maestro
                                                                                                                                                                                             opoda; Crustacea; Malace
Decapoda; Pleocyemata;
Portunidae; Carcinus.
          NEUROTRANSMITTER
                                                                                                                                                                                                                                                                                 sequence up
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          NEUROMODULATOR
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RESULT 20
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Best Local
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MOD_RES
SEQUENCE 5 A
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P41853;
01-NOV-1995
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01-MAR-2002
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Artioposthia triangulata.
Eukaryota; Metazoa; Platyhelminthes;
Eukaryota; Metazoa; Tricladida; '
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TISSUE-Skin secretion;
Wabnitz P.A., Bowle J.H., Tyler M.J.,
Wabnitz P.A., Bowle J.H., Tyler M.J.,
"Peptides from the skin glands of the
"Peptides from Comparison with the
                                  SEQUENCE, AND SYNTHESIS:
MEDLINE-94211927; PubMed-7909164;
MAULINE-94211927; PubMed-7909164;
MAULINE-94211927; Palton D.W., Curry W.J.,
MAULINE-94211927; Palton D.W., Curry W.J.,
MAULINE-1940; C., Halton D.W., Curry W.J.,
MAULINE-1940; Palton D.W., Company M., Curry W.J.,
MEDLINE-1940; Palton D.W., Company M., Company M., Curry W.J.,
MAULINE-1940; Palton D.W., Company M., Company M., Curry W.J.,
MAULINE-1940; Palton D.W., Curry W.J.,
MAULINE-1
                                                                                                                                                                                                                                                                                01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
FMRFamide-like neuropeptide RYIRF-amide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Litoria rubella (Desert tree frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea; Hylidae;
Neuropeptide;
                                                                                                                                                                                                     Arthurdendyus
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midation; Multigene family.
5 AMIDATION (POTENTIAL).
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668761F2C9A00000 CRC64;
                                    THE FARP (FMRFAMIDE RELATED PEPTIDE)
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e skin peptid
                                                                                                                                                                                                                                         Turbellarian Platyhelminths;
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b. le+05;
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P01373;
21-JUL-1986
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SEQUENCE
                 - I- FUNCTION: STÌMULĂTES CARDIAC OUTPUT AND HINDGUT MODULATES VISCERAL AND SKELETAL MUSCLE IN MANY A - I- TISSUE SPECIFICITY: FOUND IN THE LATERAL WHITE N THE CRAB PERICARDIAL ORGANS.

PIR: A01644; HOROHA.

PIR: A60411; A60411.
                                                                                                                                                                                                         SPECIES-L.polyphemus;
MEDLINE-90287800; PubMed-2356151;
Groome J.R., Tillinghast E.K., To
Watson W.H. III, Hunt D.F., Griff
Shabanowitz J.;
                                                                                                                                                                                                                                                                                                                                                                                               SPECIES-P americana;
SPECIES-P americana;
MEDLINE-76074708; PubMed-576;
MEDLINE-76074708; PubMed-576;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Periplaneta americana (American cockroach),
Limulus polyphemus (Atlantic horseshoe crab),
Carcinus maenas (Common shore crab) (Green cr
                                                                                   Stangier J., Dircksen H., Keller R.; "Identification and immunocytochemical localization pericardial organs of the shore crab, Carcinus maena Peptides 7:67-72(1986).
                                                                                                                                                                                                                                                                                                                      SPECIES-P.americana;
MEDLINE=81225865; Pu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-JUL-1986
01-FEB-1995
Neuropeptide.
SEQUENCE 5
                                                                                                                                         SEQUENCE.
SPECIES=C.maenas;
                                                                                                                                                                         "Identification of proctolin in the central nervous horseshoe crab, Limulus polyphemus."; Peptides 11:205-211(1990).
                                                                                                                                                                                                                                                                                      "Pentapeptide (proctolin) associated Science 213:567-569(1981).
                                                                                                                                                                                                                                                                                                              O'Shea M., Adams M.E.;
                                                                                                                                                                                                                                                                                                                                              BIOLOGICAL SOURCE
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"Structure of the
in insects.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Blattoidea; Blattidae;
NCBI_TaxID=6978, 6850,
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                                                                                                                                MEDLINE=86232789; PubMed=2872661;
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1; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aenas (Common shore crab) (Green crab).
Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta
Neoptera; Orthopteroidea; Dictyoptera; Blattaria;
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Query Match Best Local

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PSK__DAUCA
P58261;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PEPTIDE
MOD_RES
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "A secreted peptide growth factor, phytosulfokine, act timulatory factor of carrot somatic embryo formation. Plant Cell Physiol. 41:27-32(2000).
-i- FUNCTION: IN PRESENCE OF 2,4-D, STIMULATES PROLIFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE, AND IDENTIFICATION BY MASS STRAIN-cv. US-Harumakigosun; MEDLINE-20212743; PubMed-10750705;
                                                                                    SEQUENCE
                                                                                                                                                                  Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Trachec Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Streptdae; euasterids II; Aplales; Aplaceae; Daucus.
     rubella
                                                                                                                 NCBI_TaxID=104895;
                                                                                                                                                  Amphibia; Batrachia;
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Kamada H., Sakagami Y.;
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                                                                                                                                                                  Metazoa; Chordata;
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BELONGS TO THE PHYTOSULFOKINE FAMILY
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SULFATION.
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[Contains: Phytosulfokine-beta (PSK-
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             Wallace J.C.;
Australian buzzing
skin peptides from
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a; Bufonoidea;
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a; Hylidae;
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P38639;
01-OCT-1994
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01-OCT-1994 (Rel. 30, Last se
01-FBB-1995 (Rel. 31, Last an
Unknown protein from 2D-page
                                                                                                                                                                                                                            NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                 dog heart proteins.";
Electrophoresis 18:2795-2802(1997).
-!- CATALYTIC ACTIVITY: D-glyceraldehyde 3-phosphate =
  Eukaryota;
Mammalia;
                    Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Canis familiaris (Do
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACTIVITY.
-!- TISSUE SPECIFICITY: SECRETED Amphibian skin.
SEQUENCE 5 AA; 570 MW; 71A9CS
                                                                                                                                                                                                                                                                              InterPro; IPR000652; Trioseph_isomerase
PROSITE; PS00171; TIM; PARTIAL.
                                                                                                                                                                                                                                                                                                                                                                                          Dunn M.J., Corbett J.M., Wheeler
                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=98163340; PubMed=9504812;
                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE-Heart;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-OCT-1996
15-JUL-1998
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Similarity 100.0%;
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Eutheria;
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SPECIES-Sheep;
MEDLINE-70163386; P
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SEQUENCE
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1. MISCELLANEOUS: ON THE 20-GEL THE DETERMINED PI OF PROTEIN IS: 6.6, ITS MW IS: 19 kDa.
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MEDLINE-70136150; PubMed-4984938;
Nair R.M.G., Barrett J.F., Bowers
"Structure of porcine thyrotropin
Biochemistry 9:1103-1106(1970).
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TISSUE=Fibroblast;
MEDLINE=95009907;
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"Characterization of ovine
                                                                                                                                                                                                                                                                                                   Ward
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Boler J., Enzmann F., Folkers K., Bowers C.Y., Schally A.V.
"The identity of chemical and hormonal properties of the the
releasing hormone and pyroglutamy1-histidy1-proline amide."
Blochem. Blophys. Res. Commun. 37:705-710(1969).
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MEDLINE-70039904;
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TSH-releasing factor.";
Nature 226:321-325(1970).
[5]
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Desiderio D.M.
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16-OCT-2001 (Rel.
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SPECIES-B. orientalis; TISSUE-Skin;
MEDLINE-76138399; PubMed-815011;
MEDLINE-76138399; PubMed-815011;
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"Letter: Occurrence of Pyr-His-Pro-NH2
Chem. Pharm. Bull. 23:3301-3303(1975).
                                                                                                                                                                                     MEDLINE=90055678; PubMed=2818128; Kraut M., Hugendieck I., Herwig S., "Homology and distribution of CO de
                                                                                                                                                                                                                                           Pseudomonas carboxydohydi
Bacteria; Proteobacteria
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                                                                                                                                                                                                                                                                                                                                                                                                                                 P42563;
01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
01-NOV-1995 (Rel. 32, Last annotation update)
EMRFamide-like neuropeptide YMRF-amide.
Hirudo medicinalis (Medicinal leech)
Eukaryota; Metazoa; Annelida; Clitellata; Hirudinida;
Arynchobdellida; Hirudiniformes; Hirudinidae; Hirudo.
NCBI_TaxID-6421;
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FAR4_HIRME
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Evans B.D., Pohl J., Kartsonis M.A., Calabrese R.L.;
"Identification of RFamide neuropeptides in the medi
Peptides 12:897-908(1991).
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-!- CATALYTIC ACTIVITY: CO + H(2)O + acceptor =
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MOD_RES
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Kraut M., Hugendieck
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SUBUNIT: CONSISTS
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Similarity 0.0%;
0; Conservative
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eck I., Herwig S.,
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69D4068B30000000
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1; Mismatches
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1e+05;
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MEDLINE-90259866; PubMed-23;
Krajniak K.G., Price D.A.;
"Authentic FMRFamide is pre;
Peptides 11:75-77(1990).
                                                                                                                                                                                                          MOD_RES
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SPECIES=H trivolvis; TISSUE-Kidney; MEDLINE-94286417; PubMed-7912428; Madrid K.P., Price D.A., Greenberg M.J., Khan H.R., "FMRFamide-related peptides from the kidney of the state of the s
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[5]
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                                                                                                                                                                                                                                                                                                                                                                         trivolvis.";
Peptides 15:31-36(1994).
Peptides 15:31-36(1994).
Peptides Include: CARDIOEXCITATORY SUBSTANCE.
ACTIVITIES INCLUDE AUGMENTATION, INDUCTION, AND CARDIAC CONTRACTION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Purification and characterization of a cardioexcitatory neuropeptide from the central ganglia of a bivalve mollusc."; Prep. Biochem. 7:261-281(1977).
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SPECIES-M.nimbosa; TISSUE-Ganglion;
MEDLINE-78012038; PubMed-909875;
MEDLINE-78012038; PubMed-909875;
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Eukaryota; Metazoa; Mollusca; Bivalvia;
                                                                                                                                                                                                                                                        Neuropeptide;
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FAMILY.
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e medicinal leech.";
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01-JAN-1990
01-MAR-2002
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P30425;
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MEDLINE-90351557; PubMed-2386615; Cintra A.C.O., Vielra C.A., Glglio J.R.; Cintra A.C.O., Vielra C.A., Glglio J.R.; Primary structure and biological activity of peptides from Bothrops insularis snake venom. J. Protein Chem. 9:221-227(1990).

-!- FUNCTION: THIS PEPTIDE BOTH INHIBITS THE ANGIOTENSIN-CONVERTING ENZYME AND ENHANCE
                                                                                                                                                                                               01-APR-1993 (Rel. 25, Created)
01-FEB-1994 (Rel. 28, Last seque
01-FEB-1994 (Rel. 28, Last annot
Bradykinin potentiating peptide
enzyme inhibitor).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bloinformatics and the EMBL outstation the European Bloinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ul-JAN-1990 (Rel. 1
01-JAN-1990 (Rel. 1
01-MAR-2002 (Rel. 4
Blotin synthase (EC
                                                                                                                                                        Bothrops insularis (Island jararaca) (Queimada jararaca).
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Eutel
Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroi
                                                                                                     SEQUENCE
                                                                                                                               Viperidae; Crotalinae;
NCBI_TaxID-8723;
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NCBI_TaxID-546;
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CATALLYIC ACTIVITY: Dethiobiotin + sulfur = PATHWAY: BLOtin biosynthesis; last step.

SIMILARITY: BELONGS TO THE BIOTIN AND LIPOIC
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28, Last sequence update)
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40, Last annotation update)
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Last annotation
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1e+05;
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biotin operons.
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Growth-modulating p
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01-MAR-2002
01-MAR-2002
                                                                                                                                                                                                                                 Eukaryota; Metazoa; Cnid
Nynantheae; Actiniidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-77162369; PubMed-858356; Schlesinger D.H., Pickart L., Thaler M.M.; Schlesinger D.H., Pickart L., Thaler M.M.; "Growth-modulating serum tripeptide is glycyl experientia 33:324-325(1977).

Experientia 33:324-325(1977).

THIS SERUM TRIPEPTIDE HAS GROWTH OF SOME CELL TYPES AND TO INHIBIT PIR; A01421; GKHU.
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MOD_RES 1
SEQUENCE 5 AA; 6
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                                                                             Nothacker H.-P., Rinehart K.L. Jr., Grimmelikhuijzen "Isolation of L-3-phenyllactyl-phe-Lys-Ala-NH2 (Anthonovel neuropeptide from sea anemones.";
Biochem. Biophys. Res. Commun. 179:1205-1211(1991).
                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                             Nynantheae; Acti
NCBI_TaxID=6110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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Mammalia; Eutheria; Primates;
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         McFarlane
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                         PubMed=8397415;
                                               FUNCTION
                                                                                                                                                           PubMed=1681803;
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RT inhibitory neuropeptides, Antho-KAamide and Antho-RIamide.";
RL Proc. R. Soc. Lond., B, Biol. Sci. 253:183-188(1993).
CC -!- FUNCTION: Inhibits spontaneous contractions in several muscle groups. May be involved in the expansion phase of feeding CC behaviour in sea anemones.
CC -!- TISSUE SPECIFICITY: Neuron-specific.
RW Neuropeptide; Amidation.
FT MOD_RES 1 1 1 L-3-PHENYLLACTYL.
FT MOD_RES 4 4 ANIDATION.
SQ SEQUENCE 4 AA; 512 MW; 6DD339C9A0000000 CRC64;

Query Match 4.3%; Score 1; DB 1; Length 4;
Best Local Similarity 0.0%; Pred. No. 1e+5;
Matches 0; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Search completed: June 10, 2002, 06:41:57

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P82093 litoria rub
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Q08433;
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01-NOV-1996 (TrEMBLrel. 01, La
01-JAN-1999 (TrEMBLrel. 09, La
UDP-GLUCURONOSYLTRANSFERASE, M
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01-MAY-2000
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SEQUENCE
                                                                                        TISSUE-SKIN SECRETION;
Steinborner S.T., Wabnitz P.A., Waugh R.J., Bowle J.H., Gao C.,
Tyler M.J., Wallace J.C.;
"The structure of new peptides from the Australin red tree frog
'Litoria rubella'. the skin peptide profile as a probe for the sof evolutionary trends of amphibians.";
Aust. J. Chem. 49:955-963(1996).
-i-FUNCTION: CAERIDINS SHOW NEITHER NEUROPEPTIDE ACTIVITY NOR
ANTIBIOTIC ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NON_TER
                                                                                                                                                                                               SEQUENCE, AND MASS SPECTROMETRY.
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Mammalia; Eutheria;
                                                                   -!- TISSUE SPECIFICITY: SECRETED BY THE SKIN DORSAL GLANDS -!- MASS SPECTROMETRY: MW-598; METHOD-FAB.
                                                                                                                                                                                                                    NCBI_TaxID=104895;
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Score 7; Pred. No.

DB 11; 5.6e+05;

Length Indels

Mismatches

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Gaps

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MW;

633732C420000000 CRC64;

MICROSOME

Multigene family

ACCEPTOR -

UDP + ACCEPTOR

RESULT Q08433

30.4%;

Score Pred.

No 7;

DB 13; 5.6e+0 .6e+05;

Length

MW;

6DD9C9CAB2A00000 CRC64;

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Result

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Score

Chordata;

Last Last

sequence up annotation

update) on update)

Created)

PRT;

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Anura;

a; Craniata; Vertebrata; Euteleostomi; Neobatrachia; Bufonoidea; Hylidae;

45555677

Minimum DB Maximum DB

seq

Post-processing:

Total number of

Database

Title: Perfect score:

Chordata; Rodentia;

PRT;

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Craniata; Vertebrata; I Sciurognathi; Muridae;

Euteleostomi;

Murinae;

OM protein -

Scoring table:

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                          Query Match
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P83073;
01-OCT-2001 (TrEMBLrel. 18, Created)
01-OCT-2001 (TrEMBLrel. 18, Last sequence upd.
01-OCT-2001 (TREMBLREL. 18, Last annotation upd.
88 KDA PROTEIN (FRAGMENT).
Bacillus cercus.
Bacillus/Staphylococcus group; Bacillus.
NCBL_TaxID=1396;
                                                                                                                                P82071; PRELIMINARY;
P82071; Ol-MAY 2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
                                                                                                                                                                                                                                                           SEQUENCE, AND MASS SPECTROMETRY. TISSUE-SKIN SECRETION; Steinborner S.T., Wabnitz P.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-NCIMB 11796;
Browne N., Dowds B.C.A.;
Submitted (JUL-2001) to
NON_TER 5 5
                                                                                                                                                                                                                                                                                                                                               RUBELLIDIN 2.1.
Litoria rubella (Desert tree frog).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Eu
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea;
                                                                                                      Amphibian skin.
SEQUENCE 5 AP
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                                                                                                                                                                                                                                                 Tyler M.J., Wallace J.C.;
                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=104895;
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                                                Score 5;
Pred. No.
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                                                                                                                                     Wabnitz P.A., Bowie J.H., Tyler M.J., "Peptides from the skin glands of the Litori electrica. Comparison with the
                                                                                                                                                                                                                                                                                                                                                P82100
P82100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Amphibian skin; Amidation.
MOD_RES 5 5
SEQUENCE 5 AA; 656 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Steinborner S.T., Wabnitz P.A., Waugh R.J., Bowie J.H., Gac Tyler M.J., Wallace J.C.; Tyler M.J., Wallace J.C.; Tyler M.J., Wallace J.C.; Litoria rubella', the skin peptide profile as a probe for of evolutionary trends of amphibians. ; Aust. J. Chem. 49:955-963(1996).

-I- FUNCTION: CAERIDINS SHOW NEITHER NEUROPEPTIDE ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAY-2000 (TrEMBLrel.
01-MAY-2000 (TrEMBLrel.
01-MAY-2000 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P82072;
                                                                                                                      rubella.";
                                                                                                                                                                                                                                                             Litoria rubella (Desert tree frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; (Amphibia; Batrachia;
                                                                                Amphibian skin;
MOD_RES 5
                                                                                                                                                                                TISSUE=SKIN SECRETION;
                                                                                                                                                                                                                      NCBI_TaxID=104895;
                                                                                                                                                                                                                                                 Amphibia; Batrachia;
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01-MAY-2000
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-1- TISSUE SPECIFICITY: SECRETED BY THE SH
-1- MASS SPECTROMETRY: WM-655; METHOD-FAB
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; El
Amphibia; Batrachia; Anura; Neobatrachia; Bufonoidea;
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                                                                    SEQUENCE
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656 MW; 71A9C9CB10300000
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              21.7%;
33.3%;
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100.0%;
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61F2D1A059A00000
Score 5; DB 1
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1; Mismatches
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e Australian buz
e skin peptides
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5.6e+05;
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peptides from
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P82073;
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01-MAY-2000
01-MAY-2000
01-MAY-2000
ELECTRIN 3.
                                                                                                                                                                                                                         SEQUENCE.
TISSUE=SKIN SECRETION;
Wabnitz P.A., Bowie J.H., Tyler M.J.,
"Peptides from the skin glands of the
"Peptides from the skin glands of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Litoria rubella (Desert tree
Eukaryota; Metazoa; Chordata;
Amphibla; Batrachia; Anura; N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Amphibian skin.
SEQUENCE 5 AA;
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                                                                                                                                   MOD_RES
SEQUENCE
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Amphibia; Batrachia;
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                                                                                                                                                                                                                 rubella."
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                                                                                                                                                        Amphibian skin;
MOD RES 5
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Local Similarity 100.0%;
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FUNCTION: CAERIDINS SHOW NEIT
ANTIBIOTIC ACTIVITY.
TISSUE SPECIFICITY: SECRETED
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                                                                                                                                                                                              J. Chem. 52:0-0(1999).
                                                                                                                                                                                                                                                                                                                                                                                     rubella (Desert tree frog).
ta; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
a; Batrachia; Anura; Neobatrachia; Bufonoidea; Hylidae;
                                                      Similarity
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                                    17.4%;
ilarity 100.0%;
Conservative
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-i- COFACTOR: BINDS A CALCIUM ION REQUIRED FOR ITS ACTIVITY.
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Plant Mol. Biol. 16:713-721(1991).
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STRAIN-HIMALAYA; TISSUE-ALEURONE
MEDLINE-91239704; PubMed-1831055;
Jacobsen J.V., Close T.J.;
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Inhibitor of fibro Cyclic peptide inh Fibronectin CS1-de

Sodium channel gen Alpha-4Beta-1 inte Alpha-4Beta-1 inte Alpha-4Beta-1 inte Alpha-4Beta-1 inte Alpha-4Beta-1 inte

Immunisation motif Fibronectin CS1 pe Fibronectin CS1 pe Fibronectin CS1 pe Integrin alpha/bet Human leptin fragm Sequence of peptid Pseudopeptide rhym In vivo tumour bin Peptide signal seq Inhibitor of fibro Inhibitor of fibro Alpha-4Beta-1 inte NAP subsequence. Cyclic peptide inh Cyclic peptide inh Interleukin-6 anta Peptide used to pr LDV-peptide capabl LDV-peptide capabl Endo-betal, 4-glica Inhibitor peptide
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                                                                                                                           New peptide(s) based on the LDV domain of fibronectin - uinhibiting binding of alpha-4, beta-1 integrin to VCAM-1, fibronectin or invasin
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                                                AAW25187-W25192 are peptides containing an LDV sequence or equivalent. The peptides are capable of binding to cell adhesion molecules and are used in aqueous irrigation solutions for use during and after endoscopic operations. Preferred irrigation solutions are electrolyte-free and contain 1 microg/ml to 100 mg/ml of one or more oligopeptides containing the amino acid sequences: RGD, LDV, IDA, DGEA, GPRP, VTL, YIGSR, KQAGDV and/or REDV (given in one letter amino acid code). The solutions are especially used for irrigating the bladder during and after tumour removal by transurethral resection. The peptides protect against recurrence of tumours.
                                                                                                                                                                                                                                                                                                                                                                 Claim 6;
                                                                                                                                                                                                                                                                                                                                                                                                                     adhesion
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  Endoscopic irrigation
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                                                                                                                                                                                    The present sequence is a linear stretch of amino acids (present in fibronectin) recognised by the integrin alpha4betal. Integrins are cell surface receptors. The penton base protein (one of the coat proteins) of adenoviruses binds to integrins. The integrins not only provide a binding site for the adenovirus penton base protein, but also mediate cellular adhesion to the extracellular matrix molecules. The specification describes a method of introducing an adenovirus into a cell in vitro having a particular cell surface binding site. The adenovirus is contacted with a bispecific molecule comprising a component that selectively binds a binding domain of the penton base protein of the adenovirus and a second component that selectively binds the cell surface binding site. A complex of the adenovirus and the bispecific molecule is formed, and the cell is contacted with it to allow entry of the adenovirus into the cell. The methods can be used for research and the vectors can be used for gene therapy.
                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fibrinogen; integrin; alpha-IIb-beta3; cell surface receptor; penton base protein; coat proteins; adenovirus; binding site; cellular adhesion; extracellular matrix molecule; binding dom cell surface binding site; bispecific molecule; gene therapy.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Methods for introducing adenovirus into cells - used for genetic engineering and gene therapy
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Wickham TJ;
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CC thrombus may form an occlusion of a blood vessel, in a subject comprises conditions may form an occlusion of a blood vessel, in a subject comprises candinistering a compound which dissociates fibrinogen bound to a first contend to a platelet glycoprotein IIb-IIIa, by binding to a second contended the steep of the platelet thrombus. The method is used to treat humans with unstable contended to enact de-adhesion of osteoclasts from the bone surface to halt come loss in a patient with osteoporosis. The methods can be used to enact de-adhesion of fosteoclasts from the bone surface to halt come loss in a patient with osteoporosis. The methods can also be used continuous of angiogenic endothelial cells in a patient with a contended with angiogenesis, e.g. cancer, diabetic retinopathy, psoriasis. The methods can also be used to treat tumours, condition associated with angiogenesis, e.g. arthritis, inflammatory conditions, and asthma. The methods can be used for the dissolution of pre-formed platelet aggregates, which is a constant of the current strategy of treatment prior to formation of the processor and interest an interest and intere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to integrin ligand dissociators. Disaggregation of an existing platelet thrombus in a blood vessel is due to dissociation of fibrinogen from glycoprotein IIb-IIIa. This dissociation is caused by the binding of an integrin-ligand dissociator at ligand binding site I of glycoprotein IIb-IIIa. The invention provides a method of disaggregating an existing platelet thrombus in a blood vessel, where the platelet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Integrin-ligand; dissociator; disaggregation; platelet thrombus; stro fibrinogen; glycoprotein IIb-IIIa; angina; myocardial infarction; bon osteoclast; osteoporosis; angiogenesis; cancer; diabetic retinopathy; psoriasis; tumour; atherosclerosis; inflammatory bowel disease; asthmorgan transplant rejection; arthritis; ILD.
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                                                         that can be used
                                                      The present sequence represents an integrin ligand t can be used in the method of the invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            fragments, proteins and peptides that facilitate cell adhesion, plasminogen activator inhibitors, protease inhibitors and metalloprotease inhibitors. The peptides AAY80466-Y80492 are claimed examples of cell adhesion peptides used in the system of the invention. The system is used to replace, remodel or correct bone defects, e.g. fractures, fissures or bone mass loss. Incorporation of (I) into the scaffold results in rapid seeding by osteoblasts and the development of an organic matrix, i.e. the preformed scaffold replaces the rate-determining step of extracellular matrix formation. The scaffold cabe designed to have a predetermined resorption/degradation rate, and may
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to a novel system for reconstitution of osseous tissue comprising a scaffold carrying a compound (I) that promotes bone formation and a component that decreases bone resorption (II). Induces migration and adhesion of osteoblasts and osteoclasts and (II) inhibits proteolysis (specifically by plasmin) of extracellular matrix. (I) is preferably selected from: selection or selection binding
                           Fibronectin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     System for reconstructing osseous tissue, useful e.g. fractures, comprises scaffold containing promoter of inhibitor of bone resorption -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bone regenerative; osteopathic; osseous tissue; reconstitution; scaffold matrix; bone formation promoter; bone resorption inhibitor; cell adhesion; osteoblast; osteoclast; bone defect; fracture.
                                                                                  22-MAY-2000
                                                                                                                                            AAY77442;
                                                                                                                                                                                                AAY77442 standard;
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D; Mismatches
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(e.g., multiple sclerosis), allergies, atherosclerosis, colitis, diabetes, inflammatory bowel disease, kidney inflammation and restenosis. Prior art inhibition of VLA-4/CS-1 interaction either involves the use of anti-VLA-4 antibodies, which can themselves induce immune response on repeated administration, or the 25-mer CS-1 peptide, which is large and costly to make and is subject to rapid proteolytic degradation. The peptidomimetics of the invention are smaller in comparison to the CS-1 peptide and therefore less expensive to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to peptidomimetic compounds (AAY77415-Y77438) capable of inhibiting the binding of the VLA-4 integrin (alpha-4-beta-1, CD494/CD29) to the CS-1 portion (25 amino acids) of a splice variant of the extracellular matrix protein fibronectin (FN). VLA-4 is expressed on the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays an important acids to the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the cS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the cS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the cS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the cS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the cS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the cS-1 FN/VLA-4 interaction plays and the surface of leukocytes; the cS-1 FN/VLA-4 interaction plays and the surface of leukocytes are surface of leukocytes and the surface of leukocytes and the surface of leukocytes and the surface of leu
                                                                                                  manufacture, and are resistant to proteolysis. Sequences AAY77411-Y77414 and AAY77434-Y77444 represent fragments of the CS-1 peptide tested for their ability to inhibit VLA-4 Jurkat cells to immobilised CS-1 peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                conditions, such as asthma, rheumatoid arthritis, osteoarthritis and allograft rejection. They may also be used to treat psoriasis and otl skin inflammations, demyelinating diseases of the central nervous sys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New peptidomimetic compounds used expressing receptor and VLA-4 inhicardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      important role in the maturation and trafficking. VLA-4-mediated leukocyte adhesion to the CS-1 FN of endothelial cells is also a critical step in the inflammatory response. The peptidominetics of the invention may be used to treat both chronic and acute immunoinflammatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2000-182213/16.
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     VLA-4 inhibitor peptide #2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to novel arylalkyl and arylureidoalkyl azolylalkanolc acid derivatives and related compounds (I), and their salts and prodrugs. These are are integrin inhibitors, specifically of VLA-4 (very late antigen 4, also known as alpha-4-beta-1 or CD49d/CD29), which mediate cell adhesion. VLA-4 is a receptor for the cytokine-inducible cell surface protein VCAM-1 (vascular cell adhesion molecula-1) and for the alternatively spliced forms of fibronectin (FN) which contain the CS-1 domain. The novel compounds inhibit cell adhesion, and consequent or associated pathogenic processes mediated by VLA-4, and may therefore be useful in the treatment and prevention of inflammatory autoimmune, or respiratory disorders. These include asthma, arthritis, psoriasis, multiple sclerosis, transplant rejection, diabetes, and inflammatory bowel disease. Sequences AAX69618-Y69520 represent peptides derived from the VLA-4-binding domain of the FN CS-1 region which
                                                   Integrin antagonist; VLA-4 antagonist; alpha-4-beta-1 integrin; very late antigen; antibody; kidney disease; chronic renal failure; end-stage renal disease; chronic diabetic nephropathy; diabetic renal hypertrophy; hypertensive nephrosclerosis; hypertensive glomerulosclerosis; chronic glomerulonephritis; hereditary nephritis; renal dysplasia; chronic glomerulonephritis; hereditary nephritis; renal dysplasia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LDV peptide; VLA-4 inhibitor; very late antigen; alpha-4-beta-1; CD49d/CD29; cell adhesion; arylalkyl azolylalkanoic acid derivative; arylureidoalkyl azolylalkanoic acid derivative; inflammatory disorder;
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     Unidentified
                                     nephrotropic;
                                                                                                                                                                                Fibronectin VLA-4 binding domain-derived pentapeptide
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                                                                                                                                                                                                                                                                                            AAB73465 standard; peptide;
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                                     adhesion inhibition;
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WO200069900-A2 Synthetic Homo

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              administration of at least one integrin antagonist. The integrin can antagonists that may be used in the method include antagonists of alpha-1-subunit containing integrins or antagonists of alpha-1-subunit containing integrins or antagonists are antibodies containing integrins. In particular, the antagonists are antibodies specific for VLA-1 (very late antiger-1, alpha-1-beta-1 integrin) or VLA-4 (alpha-4-beta-1 integrin) which inhibit the interaction of the integrin and its cognate ligand (collagen I, collagen IV, and laminin in the case of VLA-1, and fibronectin and VCAM-1 in the case of VLA-4). The method of the invention may be used to treat chronic renal failure, ce end-stage renal disease, chronic diabetic nephropathy, diabetic collagen IV, and the case of VLA-4). The method of the invention may be used to treat chronic renal failure, ce of stage renal disease, chronic diabetic nephropathy, diabetic collagen IV, and the collagen IV, a
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                                                                                                                                                                                Protection; endogenous
                                                                                                                                                                                                                         Fibronectin
                                                                                                                                                                                                                                                                                                         AAB91966,
                                                                                                                                                                                                                                                                                                                                                  AAB91966 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (віол
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22-MAR-2001
                                                                                                                                                                                                                                                                22-JUN-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 eildv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                e invention relates to a method for treating a at risk of developing, chronic renal failure,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 eildv 5
                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IMPERIAL COLLEGE SCI TECHNOLOW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BIOGEN INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a mammal in, or at a risk of developing, chronic renal involves administering at least one integrin antagonist to the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   þė
                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
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                                                                                                                                                                                                                     fragment and fibrin related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 used
                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0153826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ç
                                                                                                                                     enous therapeutic peptide; peptidase; modification; succinimidyl; maleimido hormone; growth factor; neurotransmitt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   in the method
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qqo1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62pp; English.
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                                                                                                                                                                                                                                                                                                                                                  ა
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 23; DB 22,
Pred. No. 6.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ō,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the invention
                                                                                                                                                                                                                         peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                         SEQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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RESULT 1
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XX I
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present invention describes a modified therapeutic peptide (I)
CC comprising a therapeutically active amino acid region (III) and a
CC reactive group (II) (e.g. succinimidy) and maleimido groups) attached to
CC a less therapeutically active amino acid region (IV), which covalently
CC bonds with amino/hydroxyl/thiol groups on blood components to form a
CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC factors and neurotransmitters, to protect them from peptidase activity
CC in vivo for the treatment of various disorders. Endogenous therapeutic
CC peptides are not suitable as drug candidates as they require frequent
CC administration due to rapid degradation by peptidases in the body.
CC Modifying and attaching therapeutic peptides to albumin prevents or
CC reduces the action of peptidases to increase length of activity (half
CI life) and specificity as bonding to large molecules decreases
CC lifes callular uptake and interference with physiological processes.
CC AAB90829 to AAB92441 represent peptides which can be used in the
CX exemplification of the present invention.
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Best Local
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10-SEP-1999;
15-OCT-1999;
                                                                                                                                                                                                                                                                                                                              Integrin; paxillin;
                                                                               01-Jun-2000; 2000WO-US15153
                                                                                                                                                                                                                                              Unidentified
                                                                                                                                                                                                                                                                                                                                                                                                             Integrin recognition
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB50876;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB50876 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 569; 733pp; English.
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5; Conserv
                                                                                                                                                                                                                                                                                                    sclerosis;
                                                                                                                                                                                                                                                                                            transmembrane protein; alpha4 integrin inhibitor; immunosuppressive; inflammatory bowel disease; arthritis; sclerosis; asthma; atherosclerosis; wound healing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and attaching therapeutic peptides degradation, useful for increasing
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
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99US-0153406.
99US-0159783.
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                                                                                                                                                                                                                                                                                                                                                                                                             peptide
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                                                                                                                                                                                                                                                                                                                                                                                                             sequence
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                #ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 22;
6.4e+05;
hes 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           to albumin prevents length of in vivo activity
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Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                amino acid sequence to other hepitad repeats in the series. The polypeptide is useful in the construction of structural models which are useful for evaluating structure and activity of a selected occupied and clustered transmembrane protein having the selected cytoplasmic domain and for identifying therapeutic compounds. It is also useful for identifying agents as inhibitors of alpha4 integrin biological responses by contacting the structural model with paxillin or a paxillin related molecule in the presence and absence of a test agent and determining binding of paxillin or paxillin related molecule to the structural model. A decrease in binding in the presence of the test agent indicates that the test agent is an inhibitor of alpha4 integrin biological response. Inhibitors of the binding of paxillin to alpha4 are useful in blocking immune responses in conditions such as inflammatory bowel disease, arthritis, multiple sclerosis and astuma and in
                                                                                                                                              07-DEC-2000
                                                                                                                                                                                WO200073341-A1
                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                     AAB59135 standard; peptide; 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence is given in a specification relating to a polypeptide comprising a series of heptad-repeats that mimic a transmembrane domain and a selected cytoplasmic domain attached to the heptad repeats. At least a portion of the polypeptide is prepared recombinantly or at least 1 heptad repeat in the series has a different
                                                                                                             26-MAY-2000; 2000WO-US14656
                                                                                                                                                                                                                                                                                                 Peptide #3 recognised by integrin.
                                                                                                                                                                                                                                                                                                                                   21-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                    AAB59135;
                                                                               27-MAY-1999;
                                                                                                                                                                                                                                              Heptad repeat; transmembrane domain; cytoplasmic; integrin;
inflammation; thrombosis; malignancy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    identifying therapeutic compounds, comprises series of heptad repeats that mimic a transmembrane domain and cytoplasmic domain attached to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     inhibiting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Polypeptides useful in construction of structural models for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (SCRI ) SCRIPPS RES INST.
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                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                               99US-0320907
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and scarring during wound healing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 23;
Pred. No. 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 5;
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Ginsberg MH,

(SCRI) SCRIPPS RES INST

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AAR99752
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Best Local S
Matches
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asthma; mult
white blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         occupied and clustered transmembrane protein with the selected cytoplasmic domain and for identifying therapeutic compounds. It is also useful for identifying a cytoplasmic domain binding partner. It is may be used to study protein interactions with transmembrane proteins such as integrin, which can be used to treat conditions in which over activity of integrins is involved, such as inflammation, thromboate and mail transmembrane.
                                                                                                                                                                                                                                                                                                                                      Vascular cell adhesion molecule 1; integrin; fibronectin; in binding inhibitor; atherosclerosis; allergy; rheumatoid arth asthma; multiple sclerosis; type 1 diabetes; cancer; cyclic;
                                                                                                                                                                                                                                                                                                                                                                                         Cyclic peptide inhibitor of alpha-4/beta-1 integrin binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cytoplasmic domain attached to the heptad repeats. The invention is useful for evaluating structure and activity of a selected occupied and clustered transmembrane protein with the selected
                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                   02-SEP-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR99752 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
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                          WPI; 1996-077338/08
                                                                                                                                                                           WO9600581-A1
                                                                                                                                                                                                                             Modified-site
                                                                                                                                                                                                                                                                Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        identifying therapeutic compounds, comprises series of heptad repeats that mimic a transmembrane domain and cytoplasmic domain attached to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; :2001-041143/05
                                                                                                                          27-JUN-1995;
                                                                                                                                                   11-JAN-1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Polypeptides useful in construction of structural models for
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1 e11dv
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Similarity 100.
5; Conservative
                                                                          TEXAS
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                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ξ,
                                                                          BIOTECHNOLOGY CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               that mimic a
                                                                                                 9405-0268192
                                                                                                                          95WO-US08353
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                                                                                                                                                                                                                                                   /note-
                                                                                                                                                                                                                                                                            Location/Qualifiers
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                                                                                                                                                                                                                /note-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                relates to a peptide with a series of imic a transmembrane domain and a selected tached to the heptad repeats. The invention
                                                                                                                                                                                                   "cross-link between 
Val at position.5"
                                                                                                                                                                                                                                      "cross-link between 
Val at position 5"
                                                                                                                                                                                                 Val at position
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          000
                                                 ~
peptide which inhibits
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                                                  Vanderslice
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 23;
Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6.4e+05;
hes 0;
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                                                                                                                                                                                                                Glu
                                                                                                                                                                                                                                                    Glu
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                                                                                                                                                                                                                                                    at
                                                                                                                                                                                                                at
 binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 5;
                                                                                                                                                                                                                                                   position
                                                                                                                                                                                                                position
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                       arthritis;
 of alpha-4
                                                                                                                                                                                                                                                    بر
                                                                                                                                                                                                                                                                                                                                                                                          to VCAM-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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RESULT :
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                The invention relates to peptidomimetic compounds (AAY77415-Y77438) capable of inhibiting the binding of the VLA-4 integrin (alpha-4-be CD494/CD29) to the CS-1 portion (25 amino acids) of a splice variant the extracellular matrix protein fibronectin (FN). VLA-4 is express the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays an important role in the maturation and trafficking. VLA-4-mediated leukocyte adhesion to the CS-1 FN of endothelial cells is also a critical to in the interaction of endothelial cells is also a
invention may conditions, su
                        critical step
                                                                                                                                                                  New peptidomimetic compounds expressing receptor and VLA-4 cardiovascular disorders
                                                                                                                                                                                                                                               Arrhenius TS,
                                                                                                                                                                                                                                                                                                                                                                                                                                              Fibronectin;
CD49d/CD29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          allergy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            such ailments as asthma, atherosclerosis, rheumatoid arthritis, allergy, multiple sclerosis, type 1 diabetes and certain cancers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   molecule 1 (VCAM-1), fibronectin and invasin. Due to this action the peptides are useful in pharmaceutical prepns. for the treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAR99746-R99785
of alpha4beta1 i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               beta-1 integrin to VCAM-1 or atherosclerosis or allergy
                                                                                                                                        Disclosure; Fig 2; 243pp; English.
                                                                                                                                                                                                                                                                                                   10-JUL-1998;
                                                                                                                                                                                                                                                                                                                            15-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                      20-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                WO200002903-A1
                                                                                                                                                                                                                                                                                                                                                                                                          Mammalia
                                                                                                                                                                                                                                                                                                                                                                                                                                 inhibitor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fibronectin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY77441;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY77441 standard; peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (e.g
                                                                                                                                                                                                                                                                         (CYTE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     involving
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13
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                                                                                                                                                                                                                       2000-182213/16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 leukaemia, melanoma, lymphoma and
                                                                                                                                                                                                                                                                         CYTEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the alpha4betal integrin
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                                                                                                                                                                                                                                                                                                                                                                                                                                 peptidomimetic;
                                                                                                                                                                                                                                                                                                                                                                                                                                             FN; CS-1;
leukocyte;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CS1-derived peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                         CORP
          in the inflammatory response. The peptidomimetics of the be used to treat both chronic and acute immunoinflammato
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5 are cyclic peptides which selectively inhibit binding integrin to proteins such as vascular cell adhesion
                                                                                                                                                                                                                                               Elices
                                                                                                                                                                                                                                                                                                   98US-0113689
                                                                                                                                                                                                                                                                                                                            98WO-US26605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     51pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           82.6%;
80.0%;
                                                                                                                                                                                                                                               Ľ,
                                                                                                                                                                                                                                                                                                                                                                                                                                             endothelial cell; VLA-4 integrin; alpha-4-beta-1;
inflammatory cell; inflammation; cell adhesion;
                                                                                                                                                                                                                                                                                                                                                                                                                                  autoimmune disease;
                                                                                                                                                                                                                                              Gaeta FCA,
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                                                                                                                                                                                            used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fibronectin -
                                                                                                                                                                                inhibitors
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    #32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a and sarcoma), as cell adhesion is believed to be involved in
                                                                                                                                                                                                                                               не
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 17;
                                                                                                                                                                              surface fibronectin for treating inflammatory
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                                                                                                                                                                                                                                               ĭ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            useful for treating e.g.
                                                                                                                                                                                                                                              Huyghe
                                                                                                                                                                                                                                                                                                                                                                                                                                  inflammatory
acute immunoinflammatory s, osteoarthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                        a splice variant
                                                                                                                                                                                                                                               BG,
                                                                                         (alpha-4-beta-1,
plice variant of
                                                                                                                                                                                                                                               Chen
                                                                           expressed
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RESULT 1
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Best Local
This invention describes a novel method for the cyclization of penta- of hexapeptides which is effected by reaction with propanesulfonic acid anhydride (I). The process is especially useful for cyclizing H-Phe-D-Trp-Ala-Thr(tbu)-Phe-Pro-OH to obtain the somatostatin agonist L-363,301, or for cyclizing H-Ile-Leu-Asp(Otbu)-Val-NH(CH_2)_5COOH. The process gives higher yields than prior art processes. This sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (e.g., multiple scierosis), allergies, atherosclerosis, colitis, diabetes, inflammatory bowel disease, kidney inflammation and restenosis. Prior art inhibition of VLA-4/CS-1 interaction either involves the use of anti-VLA-4 antibodies, which can themselves induce an immune response on repeated administration, or the 25-mer CS-1 peptide, which is large and costly to make and is subject to rapid proteolytic degradation. The peptidomimetics of the invention are smaller in comparison to the CS-1 peptide and therefore less expensive to manufacture, and are resistant to proteolysis. Sequences AAY77411-Y77414 and AX77434-Y77444 represent fragments of the CS-1 peptide tested for
                                                                                                                                         Claim
                                                                                                                                                                                                Cyclization of penta-
                                                                                                                                                                                                                                        WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cyclization;
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                                                                                                                                                                                                                                                                                                                 (CLRN ) CLARIANT GMBH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       L-363,301.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           allograft rejection.
skin inflammations, o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (AAY77410).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           graft rejection. They may also be used to treat psoriasis and other inflammations, demyelinating diseases of the central nervous system
                                                                                                                                                                                                                                      2000-107180/10
                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ability
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                                                                                                                                                                                                                                                                             Henklein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note-
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100.0%;
                                                                                                                                                                                                or
                                                                                                                                         German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Val-NH(CH2)5COOH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Asp(0-tBu)"
                                                                                                                                                                                                hexapeptides,
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       acid anhydride;
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6.4e+05;
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immobilised CS-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agonist;
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RESULT
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Best Local :
                                              active participant in leukocyte trafficking functions. Binding of inflammatory cells to endothelial cells that express the CS-1 portion (AAMO1703) of fibronectin on their surfaces can be inhibited by CS-1 peptidomimetic cybs. of minimal length. A minimal essential sequence for specific VLA-4 recognition of CS-1 has been identified as the tripeptide LDV. A generic peptidomimetic inhibits the binding of Jurkat cells (ATCC TIB 152) to a solid phase-bound CS-1 peptide in an in vitro assay in an aq. buffer at a pH value of 7.2-7.4 to an extent that is equal to or upto about 3000-fold greater than the inhibition in the binding exhibited by AAWO1705. CS-1 mediated inflammation, e.g. astima, because the property of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           skin
                                                                                                                                                                                                                                                                                                                                       New peptide mimics of fibronectin CS-1 sequence - in interaction of endothelial cells and VLA-4 carrying cells, for treating or preventing asthma, arthritis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-DEC-1994;
06-DEC-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                     rheumatoid arthritis, osteoarthritis, allograft rejection, skin
                                                                                                                                                                                                                                                          The alpha-4 beta-1
                                                                                                                                                                                                                                                                                                 Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Arrhenius TS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-DEC-1994;
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              inflammation or central nervous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (CYTE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-JUN-1995
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYTEL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              trafficking function; peptidomimetic; treatment; asthma;
darthritis; osteoarthritis; allograft rejection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               տ
                                                                                                                                                                                                                                                                                                 Page 37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     78.3%; ilarity 100.0% Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  high affinity; CS-1; recognition
-1 cell adhesion receptor; CD49d/C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fibronectin CS-1 peptide and VLA-4 receptor binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Elices
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94US-0164101
93US-0164101
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             central nervous system
                                                                                                                                                                                                                                                          (CD49d/CD29,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      peptide;
                                                                                                                                                                                                                                                                                                 103pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Pro, D-Pro-NH2 or Pro-NH2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "optionally D-Ile"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               to illustrate the method
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaeta
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A
system demyelinating 
AAW01706-27 are exemp
                                                                                                                                                                                                                                                              VLA-4)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FCA;
                                                                                                                                                                                                                                                              cell adhesion receptor is an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cD49d/CD29; inhi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           demyelinating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                      inhibit
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                                                                                                                                                                                                                                                                                                                                           inflammatory etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                       tripeptide
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                                                                                                                                                                              for
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RESULT 16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                             relates to cyclic peptides which block the interaction of protein ligand VCAM-1 (vascular cell adhesion molecule-1) to its integrin receptor VLA-4 (very late antigen-4), thereby modulating T-cell proliferation, B-cell localisation to germinal centres and adhesion of activated T-cells and eosinophils to endothelial cells. These peptides are thus of use in treating diseases associated with these processes, including rheumatoid arthritis, multiple sclerosis and asthma, melanoma cell to be activated as the contraction of the
                                                                                                                                                                                                                                                                                                                                                                                                                    Cyclic octa:peptide comprising dimeric tetra:peptides joined by two peptide mimetic linking gps. - block interaction of VCAM-1 and/or fibronectin with integrin VLA4, used in treating arthritis, asthma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          peptides
                                                             cell invasion in metastasis, autoimmune diabetes, colitis, autoimmune encephalomyelitis, atherosclerosis, peripheral vascular or cardiovascular disease, nephritis, allograft rejection, psoriasis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-1996;
06-JUL-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                            restenosis, myocarditis,
                                                                                                                                                                                                                                                                                                     The present sequence represents a precursor peptide. The invention
                                                                                                                                                                                                                                                                                                                                                         Example 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1997-108916/10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (ZENE ) ZENECA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-JUL-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     multiple
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cyclic peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAW45730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW45730 standard; peptide; 5 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -
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                                                                                                                                                                                                                                                                                                                                                                                                     multiple sclerosis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  eptide; dimeric peptide; vascular cell adhesion molecule-1;
fibronectin; integrin; rheumatoid arthritis; asthma;
sclerosis; VLA-4; very late antigen-4; precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4
                                                                                                                                                                                                                                                                                                                                                       Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ഗ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ΑĄ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    96GB-0011470
95GB-0013798
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                                                                                                                                                                                                                                                                                                                                                       30;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "Asp(OBut)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "Piperazinyl-1-yl-acetic acid"
                                                                                                                                                                                                                                                                                                                                                  82pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78.3%;
                                            and inflammatory bowel disease
                                                                                                                                                                                                                                                                                                                                                       English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0,
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                antigen-4; precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 16;
6.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
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ANYT74
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Best Local S
Matches 4
                                                                                                                                                                                                                                                                                                        The invention relates to peptidomimetic compounds (AAY77415-Y77438) capable of inhibiting the binding of the VLA-4 integrin (alpha-4-beta-1, CD49d/CD29) to the CS-1 portion (25 mmino acids) of a splice variant of the extracellular matrix protein fibronectin (FN). VLA-4 is expressed on the surface of leukocytes; the CS-1 FN/VLA-4 interaction plays an important role in the maturation and trafficking. VLA-4-mediated leukocyte adhesion to the CS-1 FN of endothelial cells is also a critical step in the inflammatory response. The peptidomimetics of the invention may be used to treat both chronic and acute immunoinflammatory conditions, such as asthma, rheumatoid arthritis, osteoarthritis and allograft rejection. They may also be used to treat psoriasis and other skin inflammations, demyelinating diseases of the central nervous system
                                                                              (e.g., multiple sclerosis), allergies, atherosclerosis, colitis, diabetes, inflammatory bowel disease, kidney inflammation and restenosis. Prior art inhibition of VLA-4/CS-1 interaction either involves the use of anti-VLA-4 antibodies, which can themselves induce an immune response on repeated administration, or the 25-mer CS-1 peptide, which is large and costly to make and is subject to rapid proteolytic degradation. The peptidomimetics of the invention are smaller in comparison to the CS-1 peptide and therefore less expensive to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New peptidomimetic compounds used as cell expressing receptor and VLA-4 inhibitors cardiovascular disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Fibronectin;
CD49d/CD29; ]
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                        represent specific
                                                            manufacture,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page 136; 243pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Arrhenius TS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-JUL-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20-JAN-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                peptidomimetic; autoimmune disease; inflammatory disorder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               leukocyte;
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                           and are resistant to proteolysis. Sequences AAY77415-Y77433 ecific examples of the inhibitory peptidomimetics of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FN; CS-1; endothelial cell; VLA-4 integrin; alpha-4-beta-1;
leukocyte; inflammatory cell; inflammation; cell adhesion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
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100.0%; Pr
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The invention relates to peptidomimetic compounds (AAY77415-Y77438) CC capable of inhibiting the binding of the VLA-4 integrin (alpha-4-beta-1, CC CD494/CD29) to the CS-1 portion (25 amino acids) of a splice variant of CC the extracelular matrix protein fibronectin (FN). VLA-4 is expressed on CC important role in the maturation and trafficking. VLA-4 mediated concerning the control of the CS-1 FN/VLA-4 interaction plays an CC important role in the inflammatory response. The peptidomimetics of the CC critical step in the inflammatory response. The peptidomimetics of the CC critical step in the inflammatory response. The peptidomimetics of the CC invention may be used to treat both chronic and acute immunoinflammatory CC conditions, such as asthma, rheumatoid arthritis, osteoarthritis and concerning the control of the control of the control of the central nervous system CC e.g., multiple sclerosis), allergies, atherosclerosis, colitis, CC diabetes, inflammatory bowel disease, kidney inflammation and control of the central nervous system CC involves the use of anti-VLA-4 antibodies, which can themselves induce an compared administration of the central central nervous and control of the central and control of the central and control of the central centra
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immûne response on repeated administration, or the 25-mer CS-1 peptide, which is large and costly to make and is subject to rapid proteolytic degradation. The peptidominetics of the invention are smaller in comparison to the CS-1 peptide and therefore less expensive to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
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Best Local
                                                            The present peptide is a specifically claimed example of a peptide which contains the highly generic sequence A85-AA4-AA3-AA2-AA1-(AAX)n where AA5 is Glu, Ser, A8p or Asn; AA4 is Leu or Ser, AA3 is Leu, Ile, Phe or Gly; AA2 is Asp, Leu, Asn or Ser; AA1 is Gly, Pro or Asp; AAX is any amino acid and n = 0 or 1. When two or more such peptides are attached to a carrier, the product can be used for stimulating adhesion of eukaryotic cells in vitro. Particular applications include coating synthetic blood vessels with endothelial cells, preparing skin grafts using epithelial cells or stimulating wound healing. When a single peptide is used it may inhibit intercellular adhesion, making it useful for preparation thrombootic or attached the set of the peptide is used it may inhibit intercellular adhesion, making it useful for preparation thrombootic or attached the set of the peptide 
it useful for preventing thrombosis or arteriosclerosis or to suppress cancer metastases. The peptides can also be used as chemotactic attractors and for detecting/quantifying cell-cell adhesion in vitro.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Peptide(s) that stimulate or inhibit cell to cell adhesion e.g. to coat synthetic blood vessels with endothelial cells,
                                                                                                                                                                                                                                                                                                                                            Claim 9; Page 14; 18pp; German.
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AAR95707
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                                         tissue surrounding the capillary has been infected or damaged. Sometimes this white blood cell migration can become uncontrolled, with white blood cells flooding to the scene, causing widespread tissue damage. Cpds. capable of blocking this process may be beneficial as therapeutic agents. IA4B1 also recognises the extracellular matrix glycoprotein fibronectin. Three distinct IA4B1-linding sites have been identified within fibronectin. One site is found in the Hepli region and is expressed in all isoforms; two others (CS1 and CS5) are present in the alternatively spliced type III connecting segments. CS1 has the higher affinity for IA4B1 and contains the tripeptide LDV as its minimal active site. Peptides AARS5704-805 are modeled after a portion of the CS1 peptide that include the LDV domain presented in such a way by its novel
                                                                                                                                                                                                                                            Vascular cell adhesion molecule-1 (VCAM-1) is protein found on the surface of endothelial cells that line the interior wall of capillaries. VCAM-1 recognises and binds to the integrin alpha-deta-1 (IA4B1 or VCAM-1 very late antigen-4), a heterodimeric protein present on the surface of certain white blood cells. Binding of IA4B1 to VCAM-1 allows white blood cells to adhere to the capillary wall in areas where the
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Sequence
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                               produce a potent inhibitor of IA4B1 binding.
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6.4e+05;
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                                        Vascular cell adhesion molecule-1 (VCAM-1) is protein found on the curriace of endothelial cells that line the interior wall of capillaries. VCAM-1 recognises and binds to the integrin alpha-4beta-1 (IAAB1; or VCAM-1 recognises and binds to the integrin alpha-4beta-1 (IAAB1; or VCAM-1 recognises and binds to the integrin alpha-4beta-1 (IAAB1; or VCAM-1 recognises and binds to the integrin of IAAB1 to VCAM-1 allows white blood cells to adhere to the capillary wall in areas where the citisue surrounding the capillary has been infected or damaged. Sometimes this white blood cells flooding to the scene, causling widespread tissue damage. Cpds. capable of blooding to the scene, causling widespread tissue damage. Cpds. capable of blocking this process may be beneficial as therapeutic agents. IAAB1 also recognises the extracellular matrix glycoprotein fibronectin. Three distinct IAAB1-binding sites have been identified within fibronectin. One site is found in the HeplI region and is expressed in all isoforms; two others (CS1 and CS5) are present in the alternatively spliced type III connecting segments. CS1 has the higher affinity for IAAB1 and contains the tripeptide LDV as its minimal active site. Peptides AAR95704-805 are modeled after a portion of the CS1 reputive that include the LDV domain presented in such a way by its novel
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                                                                                                                                                                                                                                                                                                                                                                                                                     New peptide(s) based on the LDV domain of fibronectin - used inhibiting binding of alpha-4, beta-1 integrin to VCAM-1,
                                                                                                                                                                                                                                                                                                                                                                          Claim
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                               to produce a potent inhibitor of IA4B1 binding.
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Pred. No. 6.4e+05;
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RESULT 2
AAR95717
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CVLA-4 for very late antigen-4), a heterodimeric protein present on the
CS surface of certain white blood cells. Binding of IA4B1 to VCAM-1 allows
CC white blood cells to adhere to the capillary wall in areas where the
CC tissue surrounding the capillary has been infected or damaged. Sometimes
CC this white blood cell migration can become uncontrolled, with white
CC closs capable of blocking this process may be beneficial as therapeutic
CC agents. IA4B1 also recognises the extracellular matrix glycoprotein
CC fibronectin. Three distinct IA4B1-binding sites have been identified
CC within fibronectin. One site is found in the HeplI region and is
CC expressed in all isoforms; two others (CS1 and CS5) are present in the
CC affinity for IA4B1 and contains the tripeptide LDV as its minimal active
CC affinity for IA4B1 and contains the tripeptide LDV as its minimal active
                       Query Match
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                       Score 16; DB 17;
Pred. No. 6.4e+05;
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Gaps
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RESULT 2
AAR99748
ID AAR9
XX
                 Query Match
Best Local
Matches
                                                                                                                                           allergy, multiple sclerosis, type 1 diabetes and certain cancers (e.g. leukaemia, melanoma, lymphoma and sarcoma), as cell adhesic involving the alpha4betal integrin is believed to be involved in
                                                                                                                                                                                              of alpha4betal integrin to proteins such as vascular cell adhesion molecule 1 (VCAM-1), fibronectin and invasin. Due to this action the peptides are useful in pharmaceutical prepns. for the treatment of such ailments as asthma, atherosclerosis, rheumatoid arthritis,
                                                                                                                                                                                                                                                                                                                                             Isolated, purified cyclic peptide which inhibits binding of alpha-4 beta-1 integrin to VCAM-1 or fibronectin – useful for treating e.g. atherosclerosis or allergy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vascular cell adhesion molecule 1; integrin; binding inhibitor; atherosclerosis; allergy; asthma; multiple sclerosis; type 1 diabetes;
                                                                                                                                                                                                                                                                                                             Claim 6; Page 27; 51pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cyclic peptide inhibitor of alpha-4/beta-1 integrin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR99748
                                                                                       Sequence
                                                                                                                             metastasis
                                                                                                                                                                                                                                                                             AAR99746-R99785 are cyclic
                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1996-077338/08
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Beck PJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     29-JUN-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27-JUN-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 white blood
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TEXA-) TEXAS
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4;
                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  standard; peptide; 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kogan TP,
                                                                                         տ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cell; metastasis
Conservative
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                                                                                         AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BIOTECHNOLOGY CORP
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                 69.6%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "cross-link between Val at position 5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "cross-link between Glu
Val at position 5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ~
                                                                                                                                                                                                                                                                             peptides which selectively inhibit binding
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Vanderslice
                 Score 16; DB 17;
Pred. No. 6.4e+05;
 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                              P;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; fibronectin;
; rheumatoid ar
; cancer; cycli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 at
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                                  Length 5;
 Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         binding to VCAM-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cyclic;
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AAW45731

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Best Local Similarity
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                                                                 RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence represents a precursor peptide. The invention relates to cyclic peptides which block the interaction of protein ligand VCAM-1 (vascular cell adhesion molecule-1) to its integrin receptor VLA-4 (very late antigen-4), thereby modulating T-cell proliferation, B-cell localisation to germinal centres and adhesion of activated T-cells and eosinophils to endothelial cells. These peptides are thus of use in treating diseases associated with these processes, including rheumatoid arthritis, multiple sclerosis and asthma, melanoma cell invasion in metastasis, autoimmune diabetes, colitis, autoimmune encephalomyelitis, atherosclerosis, peripheral vascular or cardiovascular disease, nephritis, allograft rejection, psoriasis, restenosis, myocarditis, and inflammatory bowel disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cyclic peptide; dimeric peptide; vascular cell adhesion molecule-1; VCAM-1; fibronectin; integrin; rheumatoid arthritis; asthma; multiple sclerosis; VLA-4; very late antigen-4; precursor.
AAY30308 standard; peptide; 5 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cyclic octa:peptide comprising dimeric tetra:peptides joined by two peptide mimetic linking gps. - block interaction of VCAM-1 and/or fibronectin with integrin VLA4, used in treating arthritis, asthma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAW45731 standard; peptide; 5 AA
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06-JUL-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Precursor
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                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 1; Page 30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and multiple sclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1997-108916/10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-JAN-1997
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                                                                                                                                                                                                                                                               Conservative
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95GB-0013798
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "Asp(OBut)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
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                                                                                                                                                                                                                                                                                       69.68;
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                                                                                                                                                                                                                                                      Score 16; DB 18;
Pred. No. 6.4e+05;
1; Mismatches 0
                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                  Length 5;
                                                                                                                                                                                                                                                               Indels
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                                                                                                                                                                                                                                                                                                                     DX TX AX
                                                                                                           AAR82907
                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                         the angiopoietins through cleavage by the proteases TPCK Trypsin or Staphylococcus aureus protease. The angiopoietins bind to the receptor tyrosine kinase Tie-2 which is upregulated during angiogenesis. Chapiopoietin 1 (Ang 1) is ubiquitously expressed and interacts with Tie-2 on endothelial cells and early haemopoletic cells. Angiopoietin 2 (Ang 2) is homologous to Ang 1 and competitively inhibits Ang 1 creating a blood supply to a tumour. The peptides are used in a compound that binds to sites of angiogenesis is the process involved in creating a blood supply to a tumour. The peptides are used in a compound that binds to sites of angiogenesis. The compound consists of a chelator moiety capable of complexing a radionuclide metal or a moiety capable of binding to a halogen group, and an angiogenesis targeting molecule. The peptides are incorporated in the angiogenesis targeting molecule. The compounds are used for imaging and treating angiogenesis, and also to detect, stage and treat tumours and metastases. Angiogenesis is also required for wound healing and conditions such as diabetic retinopathy, in the treatment of these conditions.
                                                                                                                                                                                                                                                    Query Match
Best Local 9
                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Angiogenesis; tumour; metastasis; wound healing; diabetic retinopathy; rheumatoid arthritis; psoriasis; cancer; blood supply; imaging; treatment; angiopoietin; Tie-1; Tie-2; TPCK Trypsin; protease;
Non-RGD, non-YISGR cancer metastasis inhibitory peptide #1.
                               20-DEC-1995
                                                              AAR82907
                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Angiogenesis targeting molecules, for, e.g. detecting and treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1999-527342/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eshima
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                                                                                            AAR82907 standard; peptide; 3 AA
                                                                                                                                                                                                                                                                                                                                               useful in the treatment of these conditions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 16; Page 50; 70pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11-FEB-1999;
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les 3; Conserv
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                                                                                                                                                                                                                                                                                                                     5 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fauconnier T,
                                                                                                                                                                                                                                       Conservative
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                               (first entry)
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                                                                                                                                                                                                                                                    69.6%;
75.0%;
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                                                                                                                                                                                                                                     Score 16; DB 20;
Pred. No. 6.4e+05;
1; Mismatches (
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                                                                                                                                                                                                                                                                   Length 5;
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RESULT 27
AAW25187
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XX AW251
XX D5-JAN
DT 05-JAN
XX LDV-pe
XX LDV; 1
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KW transu
XX Synthe
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Best Local S
Matches 3
                                                                                                                                                                                                  LDV; leucine; aspartic acid; valine; cell adhesion molecule; binding; bladder irrigation; tumour removal; endoscopic oper
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cancer metastasis inhibitive peptide derivs. - useful for of cancer metastasis, healing of wounds and regulation of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cancer metastasis; adhesive p water soluble polysaccharide;
                                                                      15-AUG-1995;
                                                                                                                    20-FEB-1997
                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                              05-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   with a core sequence selected from: RGD (AAR70472-85), YIGSR (AAR70486-90) or other sequence (AAR82907-24), linked to a water soluble polysaccharide, preferably a water soluble dextran, at the C-terminus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            inhibit cancer metastasis. They are composed with a core sequence selected from: RGD (AAR7)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The peptides AAR70472-90 and inhibit cancer metastasis. T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JP07089999-A
                                                                                            15-AUG-1995;
                                                                                                                                          DE19529909-A1
                                                                                                                                                                                          transurethral
                                                                                                                                                                                                                                      LDV-peptide capable of binding cell adhesion molecules
                                                                                                                                                                                                                                                                                      AAW25187;
                                                                                                                                                                                                                                                                                                            AAW25187 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
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                                              (FREP ) FRESENIUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                immunogenicity.
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                                                                                                                                                                                                                                                                                                                                                                                           3 ldv 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               peptides are useful the regulation of in
  1997,-133793/13
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3; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                              (first
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                                                                                                                                                                                       resection;
                                                                     95DE-1029909
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                                                                                            95DE-1029909
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                                                                                                                                                                                                                                                                                                            peptide;
                                                                                                                                                                                                                                                              entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6pp;
                                                                                                                                                                                                                                                                                                                                                                                                                           60.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ul in inhibiting cancer metastasis, healing wounds
immunogenicity.
                                                                                                                                                                                         cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Japanese
                                                                                                                                                                                                                                                                                                            w
                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                           Score 14;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     peptide; core
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAR82907-24 are peptide derivatives which They are composed of an adhesive peptide
                                                                                                                                                                                                                                                                                                            ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          metastasis;
                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                         neoplasia
                                                                                                                                                                                                                                                                                                                                                                                                                           DB 16;
6.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence; dextran; cancer;
wound; immunogenicity.
                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 3;
                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                    operation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      inhibition
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RESULT 2
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Best Local
                                                                                                                                                                                     Hubbell
Tirelli
                                                                                                          Producing polymeric biomaterials by polymerizing components (e.g. polymer, protein or peptide) of useful for delivering therapeutic molecules to a
                                   A method of making polymeric biomaterials is described comprising combining two or more precursor components (e.g. polymer, protein
                                                                        Disclosure;
                                                                                                                                                             WPI; 2000-524289/47.
                                                                                                                                                                                                                                                                           01-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                    Polymer; biomaterial; conjugate; hydrogel; drug delivery; adhesive; sealant; tissue engineering; wound healing; scaffold; cell transplant; adhesion prevention; cell migration; collagenase;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Cell binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                             08-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   oligopeptides containing the amino acid sequences: RGD, LDV, IDA, DGI GPRP, VTL, YIGSR, KQAGDV and/or REDV (given in one letter amino acid code). The solutions are especially used for irrigating the bladder during and after tumour removal by transurethral resection. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAW25187-W25192 are peptides containing an LDV sequence or equipment of the peptides are capable of binding to cell adhesion molecules are used in aqueous irrigation solutions for use during and affendoscopic operations. Preferred irrigation solutions are endoscopic operations. Preferred irrigation solutions are electrolyte-free and contain 1 microg/ml to 100 mg/ml of operations.
                                                                                               adhesives or sealants
                                                                                                                                                                                                                                                   01-FEB-1999;
                                                                                                                                                                                                                                                                                                   03-AUG-2000
                                                                                                                                                                                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                                                                                                                                                                                          plasmin; elastase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAB01568 standard; peptide; 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 6; Page 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Endoscopic irrigation adhesion molecules
                                                                                                                                                                                                                                                                                                                          WO200044808-A1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        peptides protect against recurrence of tumours.
                                                                                                                                                                                                                         (новв/) новветт ја.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
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АА;
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                                                                                                                                                                                     Vernon
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                                                                                                                                                                                                 Elbert D,
                                                                                                                                                                                                                                                                                                                                                                                                                                     domain
                                                                                                                                                                                                                                                                           2000WO-US02608
                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                   99US-0118093
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                                                                                                                                                                                     В;
                                                                                                                                                                                                                                                                                                                                                                                                                                      of Fibronectin
                                                                      119pp;
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100.0%;
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                                                                       English.
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 18;
6.4e+05;
                                                                                                                                                                                                  Schoenmakers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 3;
                                                                                                           two or more precursor the biomaterial, subject and as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
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combining two or more precursor components (e.g. polymer, protein peptide) of the biomaterial under conditions that allow polymerisation of the two components. Polymerisation occurs through self selective reaction between a strong nucleophile and a conjugation of the two components.

components. Polymerisation occurs through

conjugated

or

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AAB91984
ID AABS
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Best Local Similarity
Watches 3; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      transplant devices. The biomaterials are also userul transplant devices. The biomaterials are also userul transplant devices. The biomaterials are also userul transplant devices in the active demands of adhesion-promoting peptides have been identified as being the active domains of adhesion-promoting proteins such as fibronectin, vitronectin, laminin, collagen, von Willebrand factor osteonectin etc. These peptides can be incorporated into the biomaterial when they are designed with a strong nucleophile in the peptide chain such as cysteine. These peptides are potentially useful in controlling a variety of cellular reactions such as cell attachment, migration and overgrowth on a material surface when the material is non bio-degradable or slowly degradable, and cell migration through a material when that material is biodegradable.
                                                                                 Modifying
peptidase
                                                                                                                                                                                                                                                                                                                                 17-MAY-1999;
10-SEP-1999;
15-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unsaturated bond or a conjugated unsaturated group, by nucleophilic addition. The polymeric hydrogels can be used in a variety of applications. They can be used to deliver therapeutic molecules to a subject, as adhesives or sealants (e.g. sealing air leaks on the lung), as tissue engineering and wound healing scaffolds, and as cell transplant devices. The biomaterials are also useful for adhesion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Protection; endogenous therapeutic peptide; peptidase; conjugation; blood component; modification; succinimidyl; maleimido group; amino; hydroxyl; thiol; hormone; growth factor; neurotransmitter.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB91984 standard; Peptide; 3 AA
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Disclosure; Page 574; 733pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                             17-MAY-2000; 2000WO-US13576
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fibronectin fragment and fibrin related peptide SEQ
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                                                                                                                                                                                                                                                                            (CONJ-) CONJUCHEM INC
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111
1 ldv 3
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                                                                                                                                                                                                                         DP,
                                                                                    and attaching therapeutic peptides degradation, useful for increasing
                                                                                                                                                                                                                      Ezrin AM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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99US-0153406.
99US-0159783.
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                                                                                                                                                                                                                         Milner
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. 6.4e+05;
                                                                                 to albumin prevents length of in vivo activity
                                                                                                                                                                                                                         Thibaudeau
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The present invention comprising a therapeut

therapeutically

describes a modified therapeutic tically active amino acid region

c peptide (

Query Match Best Local S Matches 3

Similarity 100 3; Conservative

60.9%; Score 14; 100.0%; Pred. No.

ore 14; DB 10; red. No. 6.4e+05; Mismatches 0;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in vivo for the treatment of various disorders. Endogenous therapeutic peptides are not suitable as drug candidates as they require frequent administration due to rapid degradation by peptidases in the body. Modifying and attaching therapeutic peptides to albumin prevents or reduces the action of peptidases to increase length of activity (half life) and specificity as bonding to large molecules decreases intracellular uptake and interference with physiological processes. AAB90829 to AAB92441 represent peptides which can be used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    reactive group (II) (e.g. succinimidyl and maleimido groups) attached a less therapeutically active amino acid region (IV), which covalently bonds with amino/hydroxyl/thiol groups on blood components to form a peptidase stabilised therapeutic peptide composed of 3-50 amino acids. (I) are useful for modifying therapeutic peptides e.g. hormones, growt.
                                                                                                 Oligopeptide and polypeptide compsns. based on the amino acid sequence of a
                         motifs
                                      Sequences will normally
                                                                                                                                                                 Steinman
                                                                                                                                                                                                                   17-AUG-1988;
                                                                                                                                                                                                                                                                                            EP304279-A.
                                                                                                                                                                                                                                                                                                                     Synthetic.
                                                                                                                                                                                                                                                                                                                                             Autoantigen; MBP; myelin basic |
myasthenia gravis; myasthenics;
                                                                                                                                                                                                                                                                                                                                                                                   myelin basic
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAP91609 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
Sequence
                                                           Disclosure; ; 7pp; English
                                                                                     modulating
                                                                                                                                        WPI; 1989-055696/08
                                                                                                                                                                                                                                           17-AUG-1988;
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3; Conserv
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                                                                                     the immune system,
                         immunisation
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t useful
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      to protect them from peptidase activity
                                                                                                                                                                                                                                                                                                                                             protein; transplantation antigen
; Transplantation antigen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                 of an immunogen and
                         9-15
in to
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                       15 amino acid sequence, tolerisation..
                                                                                                                                                                                                                                                                                                                                                                                               in association with epitopes
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6.4e+05;
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RESULT :
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               The alpha-4 beta-1 (CD49d/CD29, VLA-4) cell adhesion receptor is an active participant in leukocyte trafficking functions. Binding of inflammatory cells to endothelial cells that express the CS-1 portion (AAW01703) of fibronectin on their surfaces can be inhibited by CS-1 peptidomimetic cpds. of minimal length. A minimal essential sequence for specific VLA-4 recognition of CS-1 has been identified as the tripeptide LDV. A generic peptidomimetic inhibits the binding of Jurkat cells (ATCC TIB 152) to a solid phase-bound CS-1 peptide in an in vitro assay in an aq. buffer at a pH value of 7.2-7.4 to an extent that is equal to or upto about 300-fold greater than the inhibition in the binding exhibited by AAW01705. CS-1 mediated inflammation, e.g. asthma, rheumatoid arthritis, osteoarthritis, allograft rejection, skin
                                                                                                                                                                                                                                                                                                                                                                                  New peptide mimics of fibronectin CS-1 sequence - in interaction of endothelial cells and VLA-4 carrying cells, for treating or preventing asthma, arthritis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI;
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06-DEC-1993;
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rheumatoid arthritis;
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inflammat,ion
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fibronectin CS-1 peptide and VLA-4 receptor binding.
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93US-0164101
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            function; peptidomimetic; treatment; asthma;
osteoarthritis; allograft rejection;
ntral nervous system demyelinating disease.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "when D-form Pro at position 4, Leu is modified by: phthalimido, phenylacetyl, pyridine-3-carbonyl, benzoyl, phenylpropionyl, 2,3-dimethylbenzoyl, 3,4-dimethylbenzoyl, pyridine-2-carbonyl, cyclohexanecarbonyl, 2,5-dimethylbenzoyl, 3-methylvaleroyl, cyclohexaneacetyl, 1-naphthoyl, cyclo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Pro-NH2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cyclohexanepropiony1,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              is modified by benzoyl or pivaloyl"
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     demyelinating
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                                                                                                                                                                                                                                                                                                                                                                                                                                       inhibit
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                                                                                                                                                                                                                                                                                                                                                                                       inflammatory etc.
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AAR95728 ID AAR9

AAR95728 standard; peptide;

4 AA RESULT

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RESULT 3
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                                            Query Match
Best Local
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Best Local
                                                                                Sequence
                                                                                                        Single strand conformation polymorphism analysis revealed a conformer in the sodium channel gene, domain IV, segment 53, in horses affected by hyperkalemic periodic paralysis. A C to G transversion (AAQ75256) was present in 5/18 sequenced clones from the horse. The sequence found in unaffected horses is given in
                                                                                                                                                                                  Detecting hyperkalaemic periodic paralysis in horses identifying a single base mutation in the skeletal muchannel gene, can be used for prenatal diagnosis.
                                                                                                                                                                                                                                                                                                           01-OCT-1992;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR66483 standard; Protein; 4 AA
                                                                                                  AAQ75255
                                                                                                                                                                  Disclosure;
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                                                                                                                                                                                                                                                                                        01-OCT-1992;
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                                                                                                                                                                                                                                                                                                                                                                Equus caballus.
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                                                                                                                                                                                                                                                                                                                                                                                            Hyperkalemic periodic
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                                                                                                                                      rand conformation polymorphism analysis revealed in the sodium channel gene, domain IV, segment
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                                                                                                                                                                  Column
                                    Conservative
                                                                                                                                                                                                                                                   Byrns G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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                                                                                                                                                                  19;
                                            100.0%;
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100.0%;
                                                                                                                                                                                                                                                                                                                                                                                          paralysis; quarter horse;
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                                            Score 14;
Pred. No.
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Pred. No.
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                                    Mismatches
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                                            No.
                                            DB 16;
. 6.4e+05;
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6.4e+05;
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                                                    Length 4;
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                                                                                                                                                                      CC vascular cell adhesion molecule-1 (VCAM-1) is protein found on the CC surface of endothelial cells that line the interior wall of capillaries. CC vCAM-1 recognises and binds to the integrin alpha-4beta-1 (IA4B1; or CC VCAM-1 recognises and binds to the integrin alpha-4beta-1 (IA4B1; or CC what for very late antigen-4), a heterodimeric protein present on the Surface of certain white blood cells. Binding of IA4B1 to VCAM-1 allows CC white blood cells to adhere to the capillary wall in areas where the CC tissue surrounding the capillary has been infected or damaged. Sometimes CC this white blood cell migration can become uncontrolled, with white blood cells flooding to the scene, caussing widespread tissue damage. CC to capable of blocking this process may be beneficial as therapeutic CC agents. IA4B1 also recognises the extracellular matrix glycoprotein CC fibronectin. Three distinct IA4B1-binding sites have been identified CC within fibronectin. One site is found in the Hepli region and is CC expressed in all isoforms; two others (CS1 and CS5) are present in the CC affinity for IA4B1 and contains the tripeptide LDV as the minimal active Site. Peptides AAR95704-805 are modeled after a portion of the CS1 CC flanking sequence to produce a potent inhibitor of IA4B1 binding.
                                                              Query Match

Best Local Similarity
Matches 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-JUL-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VCAM-1; vascular cell adhesion molecule-1; VLA-4; very late antigen-4; inhibitor; binding; white blood cell; migration; capillary wall; tissue damage; injury; fibronectin; extracellular matrix glycoprotein; CS1; CS5; H1; LDV; active site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAR95728;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New peptide(s) based on the LDV domain of fibronectin - used inhibiting binding of alpha-4, beta-1 integrin to VCAM-1, fibronectin or invasin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-JUL-1994;
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                                                                                                                                               Sequence
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                                                                             100.0%; Score 14;
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0. 6.4e+05;
ches 0;
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AAR95731

AAR95731 standard; peptide; 4 AA

AAR95726 ID AARS

AAR95726 standard; peptide; 4

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RESULT

ω 5

В 2

N 3 ldv 5

ldv

RESULT 34

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Query Match
Best Local S
Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vascular cell adhesion molecule-1 (VCAM-1) is protein found on the surface of endothelial cells that line the interior wall of capillaries. VCAM-1 recognises and binds to the integrin alpha-4beta-1 (IA4B1; or VLA-4 for very late antigen-4), a heterodimeric protein present on the surface of certain white blood cells. Binding of IA4B1 to VCAM-1 allows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VCAM-1; vascular cell adhesion molecule-1; VLA-4; very late antigen-4; inhibitor; binding; white blood cell; migration; capillary wall; tissue damage; injury; fibronectin; extracellular matrix glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                white blood cells to adhere to the capillary wall in areas where the tissue surrounding the capillary has been infected or damaged. Sometithis white blood cell migration can become uncontrolled, with white blood cells flooding to the scene, causing widespread tissue damage.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New peptide(s) based on the LDV domain of fibronectin - unhibiting binding of alpha-4, beta-1 integrin to VCAM-1, fibronectin or invasin
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                                                                                                                                                    Sequence
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      Similarity
3; Conserv
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            Conservative
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                                 100.0%;
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Score 14; DB 17;
; Pred. No. 6.4e+05;
0; | Mismatches 0;
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CC Vascular cell adhesion molecule-1 (VCAM-1) is protein found on the CS surface of endothelial cells that line the interior wall of capillaries. CC VCAM-1 recognises and binds to the integrin alpha-4beta-1 (IA4B1; or CC VLAA-4 for very late antigen-4), a heterodimeric protein present on the Surface of certain white blood cells. Binding of IA4B1 to VCAM-1 allows CC white blood cells to adhere to the capillary wall in areas where the CC tissue surrounding the capillary has been infected or damaged. Sometimes CC this white blood cell migration can become uncontrolled, with white CD blood cells flooding to the scene, causing widespread tissue damage. CC CDds. capable of blocking this process may be beneficial as therapeutic agents. IA4B1 also recognises the extracellular matrix glycoprotein CC fibronectin. Three distinct IA4B1-binding sites have been identified CC expressed in all isoforms; two others (CSI and CS5) are present in the CC alternatively spliced type III connecting segments. CSI has the higher CC affinity for IA4B1 and contains the tripeptide DV as its minimal active CC site. Peptides ARA95704-805 are modeled after a portion of the CS1 contains the LDV domain presented in such a way by its novel CC flanking sequence to produce a potent inhibitor of IA4B1 binding.
                                                                 Query Match
Best Local S
Matches 3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 4; Column 25-26; 35pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New peptide(s) based on the LDV domain of fibronectin - used for inhibiting binding of alpha-4, beta-1 integrin to VCAM-1, fibronectin or invasin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-JUL-1994;
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Live 0; Mismatches
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US-08-709-146-503-3
US-08-98-391-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/725
APPLICATION NUMBER: 1991
FILING DATE: July 3, 1991
ATTORNEY/AGENT INFORMATION:
NAME: Warren M. Cheek, Jr.
REGISTRATION NUMBER: 33,36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Kimikazu HAS
TITLE OF INVENTION: Art
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-8850
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MEDIUM TYPE: Diskette, 5.25 inch, 500 kb
                                                                                                                                                                                                                                                                                                                                                                   FRAGMENT TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
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                                                                                                                                    POSITION IN GENOME:
CHROMOSOME/SEGMENT:
IDENTIFICATION METHOD:
OTHER INFORMATION:
PUBLICATION INFORMATION:
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                                                      SOCATION:
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                                                                                                                     MAP POSITION:
                                                                                                                                                                                                                                                                    HAPLOTYPE:
TISSUE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: sir
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                                                                     NAME/KEY:
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FILING DATE:
PUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID NO:
US-08-109-106-3
US-08-303-162A-3
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APPLICANT:
APPLICANT:
APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                            TELEFAX: (312) 616-570 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tent No.
                                                                                                                                            REGISTRATION NUMBER: 30763
REFERENCE/DOCKET NUMBER: 61:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 616-5600
               TOPOLOGY: 1: MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION:
                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES:
                                        TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                         APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1.25
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                                                                                 5 amino acids
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Two Prudential Plaza, Suite 4900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bruder, Joseph T.
VENTION: CHIMERIC PENTON BASE MOLECULES
VENTION: AND METHODS OF USING SAME
FOURMORES: 24
                                                                                                                                                                                                                                                                                                                                                                                                         USA
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SYSTEM: PC-DOS/MS-DOS
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               protein
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Query Match Best Local

Local Similarity

Conservative

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Score 23; DB 1; Pred. No. 1.7e+05; ; Mismatches 0;

Length 5;

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                                                     Sequence 10, Application US/08338282
Patent NO. 5730978
GENERAL INFORMATION:
APPLICANT: Wayner, E.A.
TITLE OF INVENTION: INHIBITION OF NUMBER OF SEQUENCES: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Patent No. 5712136
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIA RE-BASE #1.0, Version #1.25
CURRENT APPLICATION DATA:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Christensen, O'Connor, Johnson and Kindness
ADDRESSEE: 2800 Pacific First Center, 1420 Fifth Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 5 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
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APPLICATION NUMBER: 08/303,162
FILING DATE: 08-SEP-1994
CLASSIFICATION: 514
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                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
STRANDEDNESS: Sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 514
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/634,060
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Two Prudential Plaza, Suite 4900
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ilarity 100.0%;
Conservative (
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                                                           INHIBITION OF LYMPHOCYTE ADHERENCE TO VASCULAR ENDOTHELIUM 12
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71602
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Pred. No. 1.7e+05;
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                                                                                                                                                                                                                                                                                                                           Length 5;
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SEQUENCE CHARACTERISTICS:
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ZIP: 98101-23.
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette-5.25 inch,
MEDIUM TYPE: IBM PC/386 Compatible
COMPUTER: IBM PC/386 Compatible
MS-DOS 4.01
                                      ZIP: 60601
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/814,873
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 1-206-682-8100; 1-206-224-0727 (direct)
             SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                              CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                APPLICANT: Bruder, Joseph T.
TITLE OF INVENTION: CHIMERIC PENTON BASE MOLECULES
TITLE OF INVENTION: AND METHODS OF USING SAME
NUMBER OF SEQUENCES: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE:
DESCRIPTION:
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APPLICATION NUMBER:
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CITY: Chicago
STATE: Illinois
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                                                                                                                                COUNTRY:
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Washington
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                                                                                                                                                                             Two Prudential Plaza, Suite 4900
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Brough, Douglas E.
McVey, Duncan L.
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US/08/709,515
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Pred. No. 1.7e+05;
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RESULT 6
US-08-700-846-2
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Best Local Similarity
""+"hes 5; Conserv?
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                                                                         TELEFAX: (312) 616-5700
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 5 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                              ATTORNEY/AGENT INFORMATION:
NAME: LARCHER, CAROL
REGISTRATION UMBER: 35243
REFERENCE/DOCKET NUMBER: 74
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                   ZIP: 60601-6780
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 616-5600
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
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ATTORNEY/AGENT INFORMATION:
NAME: Klyk, John Jr.
REGISTRATION NUMBER: 3076
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APPLICATION NUMBER: 08/3
FILING DATE: 08-SEP-1994
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              TYPE: amino acid
%TRANDEDNESS: sir
TOPOLOGY: linear
                                                                                                                                                                                                                               APPLICATION NUMBER: US/0
FILING DATE: 21-AUG-1996
CLASSIFICATION: 514
                                                                                                                                TELEPHONE:
                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: LEYDIG, VOIT & MAYER, LTD. STREET: TWO PRUDENTIAL PLAZA, SUITE 4900
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STRANDEDNESS: si
TOPOLOGY: linear
                                                               LENGTH:
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                                                                                              (312) 616-5600
(312) 616-5700
R SEQ ID NO: 2:
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Pred. No. 1
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Best Local Similarity
Matches 5; Conserv
                                   SEQ ID NO 2
LENGTH: 5
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Best Local Similarity
Matches 5; Conserv
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LENGTH: 5
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                                                                                                                                                  FILE REFERENCE: 10274/U24U12
CURRENT APPLICATION NUMBER: US/08/983,391
CURRENT FILING DATE: 1998-08-10
CURRENT FILING DATE: US 96/11570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 3, Application US/09146503 Patent No. 6184206
                                                                                                                                                                                                                               APPLICANT: Hammond, Charles E.
APPLICANT: Carter, Mary Beth
APPLICANT: Almquist, Ronald G.
APPLICANT: Ensinger, Carol Lee
TITLE OF INVENTION: CELL ADDESION INHIBITORS
                                                                   PRIOR APPLICATION NUMBER: US 08/498,237
PRIOR FILING DATE: 195-07-11
NUMBER OF SEQ ID NOS: 5
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EARLIER APPLICATION NUMBER: 60/057,463
EARLIER FILING DATE: 1997-09-03
NUMBER OF SEQ ID NOS: 3
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Integrin Ligand Dissociators FILE REFERENCE: 02046.0002
CURRENT PAPILCATION NUMBER: US/09/146,503
CURRENT FILING DATE: 1998-09-02
                                                                                                                                         PRIOR APPLICATION NUMBER: US PRIOR FILING DATE: 1996-07-11
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                LENGTH: 5
TYPE: PRT
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ORGANISM: Artificial Sequence
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5. 6239108
                                                                                                                                                                                                                                                                                                                         Cuervo, Julio Herman
Lee, Wen-Cherng
                                                                                                                                                                                                                                                                                                                                                             Castro, Alfredo C.
Zimmerman, Craig N.
                                                                                                                                                                                                                                                                                                                                                                                                  Adams, Steven P.
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Pred. No. 1
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Query Match
Best Local Similarity
"-+-hes 5; Conserv?
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; OTHER INFORMATION: Synthetically generated protein
US-08-983-391-2
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                                                                                                                                ; ANTI-SENSE:
US-08-498-237-2
                                                       Query Match
Best Local S
Matches 5
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                                                                                                                                                                                                                                TELEFAX: (212) 596-9090
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 5 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                            REFERENCE/DOCKET NUMBER: B1
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 596-9000
                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Haley Jr, James F
REGISTRATION NUMBER: 27,794
                                                                                                                                                            MOLECULE TYPE:
HYPOTHETICAL:
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ADDRESSEE: Fish & No
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                                                        Local Similarity hes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE: New York
                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                      TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
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1251 Avenue of the Americas
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Hammond, Charles E
Carter, Mary B
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                                                       100.0%; Score 23; DB 4; 1
100.0%; Pred. No. 1.7e+05;
tive 0; Mismatches 0;
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Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 596-9000
TELEFAX: (212) 596-9090
TELEFAX: 14-8367
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
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APPLICANT: Adams, Steven
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/07542
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APPLICATION NUMBER: US/08/376,372
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ADDRESSEE: Fish & Neave
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TITLE OF I
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NAME: Haley Jr, James F
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                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
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STATE: New York
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CLASSIFICATION: 424
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OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Haley Jr, James F
REGISTRATION NUMBER: 27,794
REFERENCE/DOCKET NUMBER: B1
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Castro, Alfredo C
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N: CELL ADHESION INHIBITORS
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, Charles E
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100.0%; Pred. No. 1.7e+05;
Live 0; Mismatches 0;
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                                                                     (EPO)
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; ZOCATION: 5
; OTHER INFORMATION:
; OTHER INFORMATION:
US-08-271-830-16
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 5 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
CORRES
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APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: NO. 5510332thrup, Thoragon Thoragon Number: 33,268
TELECOMMUNICATION INFORMATION:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
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CURRENT APPLICATION DATA:
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                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                  MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Vanderslice, Peter APPLICANT: Beck, Pamela J.
                                                                                                                                                                                                                          LENGTH: 5 am....
TYPE: amino acid
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CLASSIFICATION:
                                                                                                                                 NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 eildv 5
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5510332
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                                                                                                                              Modified-site
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
                              /note- "Xaa-Val-NH2."
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                                                                /label= Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/08/271,830
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Thomas E.
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
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US-08-860-248C-39
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Sequence 39, Approx.
-+ No. 6034056
                                                      Matches
                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTY, COUNTY, COUNTY, COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: IBM PC compatible
TOWNITER: THE PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patent No. 6034056 GENERAL INFORMATION:
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: GB 951
FILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 39:
                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: GB 95 FILING DATE: 23-MAR-1995 PRIOR APPLICATION DATA:
                                                                                                                                                                                                FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                               MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                    FEATURE
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                                                                                                                                                                   NAME/KEY:
                                                                                                                                       OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                            OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                          TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: GB 9426254.0 FILING DATE: 24-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/860,248C FILING DATE: 24-JUNE-1997
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Washington
                                                                                                                                                                                                                                        LOCATION:
                                                                                                                                                                                                                                                   NAME/KEY: Peptide
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                                                      Conservative
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                                                                                                                                                                                Peptide
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                                                                  82.6%;
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/note= "D
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                                                                                                                                       /product= "OTHER"
/note= "D CONFIGURATION"
                                                                                                                                                                                                                                                                                                                                                                                              GB 9513904.4
                                                                                                                                                                                                                                                                                                                                                                                                                                       GB 9505905.1
                                                   Score 19; DB 3; Le
Pred. No. 1.7e+05;
                                                                                                                                                                                                            "OTHER"
CONFIGURATION"
                                                                                                                                                                                                                                              DB 1;
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                                                                                Length 5;
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                                                      Indels
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Best Local S
Matches 4
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ATTORNEY JACKTON

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INFORMATION FOR SEQ ID NO:
                                 APPLICANT: Kogan, Timothy P.
APPLICANT: Ren, Kaijun
APPLICANT: Vanderslice, Peter
APPLICANT: Beck, Pamela J
TITLE OF INVENTION: A PROCESS TO INHIBIT BINDING OF
TITLE OF INVENTION: THE INTEGRIN '4 1 TO VCAM-1 OR
TITLE OF INVENTION: THERONECTIN AND CYCLIC PEPTIDES
TITLE OF INVENTION: THEREFOR
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NAME: Katz, Martin L.
REGISTRATION NUMBER: 25,011
REFERENCE/DOCKET NUMBER: TE
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MEDIUM TYPE: Floppy
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LENGTH: 5 amino acids
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STREET: 180 No. 6087330th Stetson, 2 Prudential Plaza, Suite
STREET: 4700
CITY: Chicago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: /note= crosslink between Glu at OTHER INFORMATION: position 1 and Val at position
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SEQUENCES:
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ilarity 80.0%;
Conservative
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Pred. No. 1.7e+05;
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RESULT
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Best Local
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                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
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                                                                                                                                                                                                                                       APPLICANT: Arrhenius, Thomas S.
APPLICANT: Elices, Mariano J.
APPLICANT: Gaeta, Federico C.A.
TITLE OF INVENTION: CS-1 PEPTIDOMINETICS,
TITLE OF INVENTION: METHODS OF USING THE S
NUMBER OF SEQUENCES: 15
SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/435,286
                                                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: NORTHRUP, Thomas E. REGISTRATION NUMBER: 33,268 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: PatentID Release #1.0, Version #1.
CURRENT APPLICATION DATA:
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LENGTH: 5 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION: NAME: Northrup, Thomas E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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ADDRESSEE: Dressler, Goldsmith, Shore & Milnamow, ADDRESSEE: Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                           STREET: 180 NO CITY: Chicago STATE: IL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE:
                                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                            COUNTRY: U
ZIP: 60601
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OTHER INFORMATION:
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CLASSIFICATION:
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(312)616-5460
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80.0%;
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                                             TELEFAX: (312)616-546
                           SEQUENCE CHARACTERISTICS:
                                                                                           TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                  SOFTWARE: PatentIn Reli
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Elices, Mariano J.
APPLICANT: Gaeta, Federico C.A.
TITLE OF INVENTION: CS-1 PEPTIDOMIMETICS,
TITLE OF INVENTION: METHODS OF USING THE SEQUENCES: 15
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LENGTH: 5 amino acids
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REGISTRATION NUMBER: 29,381
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312)616-5400
                                                                                                                                        ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
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PRIOR APPLICATION DATA:
                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                        NAME: Gamson, Edward P. REGISTRATION NUMBER: 29,381
                                                                            TELEPHONE:
                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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mes 4; Conserv
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                                                                                                                                                                                                      CLASSIFICATION: 514
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              ENGTH:
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amino acids
amino acid
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                                                          : (312)616-5400
(312)616-5460
                                                                                                                                                                                                                                                                  PatentIn Release #1.0, Version #1.25
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/note= "Xaa = Pro~NH2
                                                                                                                                                                       US/08/164,101
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Pred. No.
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                                                                                                                              US-08-860-248C-1
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                                                        Matches
                                                                    Query Match
Best Local Similarity
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Best Local
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                                                                                                                                                                                                                                                                                           PILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 1:
SECURDADE OUR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9426254.0
FILING DATE: 24-DEC-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9505905.1
FILING DATE: 23-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM: PC-D
SOFTWARE: MS WORD
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/08 FILING DATE: 24-JUNE-1997 CLASSIFICATION: 514
             2 ildv 5
                                                                                                                                          OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                       LOCATION:
                                                                                                                                                                                                                                           TYPE: amino acid
STRANDEDNESS: single
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les 4; Conserv
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1100 New York Avenue, N.W.
                                                        Conservative
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100.0%; Pr
                                                                    78.3%;
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122
                                                                                                                                          /product= "OTHER"
/note= "4-AMINO-BUTYRIC ACID"
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                                                                    Score 18; DB 3; I
Pred. No. 1.7e+05;
                                                        Mismatches
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s 0;
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                                                        Indels
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RESULT 19 US-08-860-248C-2

Application US/08860248C

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Best Local Similarity
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: MS WORD
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/860,248C
FILING DATE: 24-JUNE-1997
                                                                                                                                                                                                                                           Sequence 3, Application US/08860248C Patent No. 6034056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2,
                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: GB 9505905.1
FILING DATE: 23-MAR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9513904.4
FILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 2:
COUNTRY: U.S.A.
ZIP: 20005-3918
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION UMBER: GB 9426254.0
FILING DATE: 24-DEC-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: peptide
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                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                         TITLE OF INVENTION:
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                                                                                                                                                                       UMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: circular
                                                                                   CITY: Washington STATE: D.C.
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AL INFORMATION:
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20005-3918
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                                                                                                                      E: Pillsbury Madison & Sutro, L.L.P 1100 New York Avenue, N.W.
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                                                                                                                                                                                                                                                                                                                                                                                                                 78.3%; Score 18; DB 3;
100.0%; Pred. No. 1.7e+05
Live 0; Mismatches 0
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/note= "4-AMINO-P
                                                                                                                                                                         122
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Best Local Similarity
Arches 4; Conserve
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FILING DATE: 23-MAR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 951
FILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Application Patent No. 6034056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                             APPLICATION NUMBER: GB 942
FILING DATE: 24-DEC-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 950
FILING DATE: 23-MAR-1995
PRIOR APPLICATION DATA:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER:
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CORRESPONDENCE ADDRESS:
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                                                                                                                                                                 FILING DATE: 24-JUNE-1997 CLASSIFICATION: 514
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APPLICATION NUMBER: GB 9513904.4 FILING DATE: 07-JUL-1995 RMATION FOR SEQ ID NO: 4:
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STRANDEDNESS: sir
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20005-3918
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VE-1997 |
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/note= "6-AMINO-HEXANOIC ACID"
                                                                                                                                 GB 9426254.0
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                                                                               GB 9505905.1
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                                                                                                                                                                                                                   APPLICATION NUMBER: GB 9
FILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 5
SEQUENCE CHARACTERISTICS:
LENGTH: 5 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ZIP: 200ub-352.
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: FOR PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                         APPLICATION NUMBER: GB 950990...
FILING DATE: 23-MAR-1995
PRIOR APPLICATION DATA:
GB 9513904.4
                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9426254.0
FILING DATE: 24-DEC-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: MS WORD CURRENT APPLICATION DATA:
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                                                                                                                                                          MOLECULE TYPE:
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OTHER INFORMATION: OTHER INFORMATION:
                                                                             OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                         TYPE: amino acid
STRANDEDNESS: sir
TOPOLOGY: circula
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OTHER INFORMATION:
                                                                                                             LOCATION:
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                              LOCATION:
                                                 NAME/KEY:
                                                                                                                          NAME/KEY: Peptide
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20005-3918
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1100 New York Avenue, N.W.
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                                                                                                                                                         peptide
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24-JUNE-1997
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/note= "7-AMINO-HEPTANOIC ACID"
   /product= "OTHER"
/note= "D CONFIGURATION"
                                                                             /product= "OTHER"
/note= "7-AMINO-HEXANOIC ACID"
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RESULT 24
US-08-860-248C-12
; Sequence 12, Application US/08860248C
; Patent No. 6034056
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Best Local Similarity
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US-08-860-248C-11
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                                                                                                                                                                                                                                                                                                                                     Matches
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Best Local Similarity
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COUNTRY: U.S.A.
COUNTRY: U.S.A.
ZIP: 20005-3918
COMPUTER READABLE FORM:
MEDIUM TYPE: Flopy disk
MEDIUM TYPE: IBM PC compatible
TYSTEM: PC-DOS/MS-DOS
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CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/860,248C

FILING DATE: 24-UUNE-1997

CLASSIFICATION: 514

PRIOR APPLICATION DATA:

APPLICATION DATA:

CHASTON UMBER: GB 9426254.0

FILING DATE: 24-DEC-1994

PRIOR APPLICATION DATA:

PRIOR APPLICATION DATA:
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FILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 1
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5 amino acid
STRANDEDNESS: *'
TOPOLOGY:
TABLECULF
TOPOLOGY:
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OTHER INFORMATION:
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                                                                                                                                                                                                                                                                                                                                     Conservative
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100.0%; Pr
                                                                                                                                                                                                                                                                                                                                  78.3%; Score 18; DB 100.0%; Pred. NO. 1. Live 0; Mismatches
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122
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/note= "N-ACETYL-D-LYSINE"
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Pred. No.
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/860,248C FILING DATE: 24-JUNE-1997 CLASSIFICATION: 514 PRIOR APPLICATION DATA: APPLICATION NUMBER: GB 9426254.0 FILING DATE: 24-DEC-1994 PRIOR APPLICATION DATA:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: YSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM: PC-DO SOFTWARE: MS WORD CURRENT APPLICATION DATA:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: LBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: peptide
                                                                                             STREET: 1100 New 1
CITY: Washington
STATE: D.C.
                                                                                                                                                                     NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                   TITLE OF INVENTION:
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OTHER INFORMATION:
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STRANDEDNESS: single
TOPOLOGY: circular
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                                                                      COUNTRY: U.S.A.
ZIP: 20005-3918
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1100 New York Avenue, N.W.
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                                                                                                                                                                           DUTTA, Anand
VENTION: FIBRONECTIN ADHESION INHIBITORS
SEQUENCES: 122
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/ENTION: FIBRONECTIN ADHESION INHIBITORS
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/note= "N-ACETYL-D-ORNITHINE"
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Best Local Similarity
Matches 4; Conserv
APPLICATION NUMBER: GB 9
FILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 11
SEQUENCE CHARACTERISTICS:
LENGTH: 5 amino acids
                                                                                  APPLICATION NUMBER: GB 9426
FILING DATE: 24 DEC-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 950:
FILING DATE: 23 MAR-1995
PRIOR APPLICATION DATA:
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APPLICATION NUMBER: GB 9

FILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 1
                                                                                                                                                                                                                                                                                                            2IP: 20003
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
MEDIUM TYPE: IBM PC COM
                                                                                                                                                                                       CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                            SOFTWARE: MS WORD CURRENT APPLICATION DATA:
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STRANDEDNESS: single
TOPOLOGY: circular
MOLECULE TYPE: peptide
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OPERATING SYSTEM:
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SYSTEM: PC-DOS/MS-DOS
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                                                                     GB 9513904.4
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/note= "N-ACETYL-ORNITHINE"
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RESULT 27
US-08-860-248C-15
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Best Local :
                                                                                                                                               FILING DATE: 07-JUL-19
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9
FILING DATE: 07-JUL-1995
                                                                                                                                                                                                                                                  APPLICATION NUMBER: GB 9-FILING DATE: 24-DEC-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM: PC-D
SOFTWARE: MS WORD
CURRENT APPLICATION DATA:
                                                                         MOLECULE TYPE:
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                              NAME/KEY:
LOCATION:
 OTHER INFORMATION: OTHER INFORMATION:
                                                                                      TYPE: amino acid
STRANDEDNESS: sir
TOPOLOGY: circula
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OTHER INFORMATION:
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STRANDEDNESS: si
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100.0%; Pr
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/product= "OTHER"
/note= "4-AMINOMETHYL-BENZOIC ACID"
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/note= "N-ACETYL-I
                                                                                                                                                                                           GB 9513904.4
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/note= "D CONFIGURATION"
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RESULT 28
US-08-860-248C-16
; Sequence 16, Application US/08860248C
; Patent No. 6034056
; Patent No. 6034056
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                                                             RESULT
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                                                                                                                                                                    Query Match
Best Local S
Matches 4
Sequence 20, Application US/08860248C Patent No. 6034056 GENERAL INFORMATION:
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Best Local Similarity 100.0%;
Matches 4; Conservative
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                                                                                                                                                                                                                                                             OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
STRANDEDNESS: sing
TOPOLOGY: circular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: GB 9505905.1 FILING DATE: 23-MAR-1995
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                                                                                                                                                                                                                                                                                                          LOCATION:
                                                                                                                                                                                                                                                                                                              NAME/KEY: Peptide LOCATION: 5
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1100 New York Avenue, N.W.
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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/note= "(4-(2-AMINOETHYL)-IMIDAZOL-1-YL)-ACETIC ACID"
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hes 0;
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                                                                                                                                                                                                                  Patent No. 6034056
GENERAL INFORMATION:
APPLICANT: DUTTA, Anand
TITLE OF INVENTION: FIBRONECTIN ADHESION INHIBITORS
NUMBER OF SEQUENCES: 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
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LENGTH: 5 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: circular
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SOFTWARE: MS WORD
CURRENT APPLICATION NUMBER: US/O
FILING DATE: 24-UNE-199
CLASSIFICATION: 514
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FILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 20:
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TITLE OF INVENTION: FIBRONECTIN ADHESION INHIBITORS
NUMBER OF SEQUENCES: 122
CORRESPONDENCE ADDRESS:
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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OTHER INFORMATION:
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              OPERATING SYSTEM:
SOFTWARE: MS WORD
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                                                                                                TRY: U.S.A.
20005-3918
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20005-3918
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APPLICATION DATA:
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1100 New York Avenue, N.W.
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1100 New York Avenue, N.W.
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100.0%;
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/note= "N-ACETYL-D-LYSINE"
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US-08-860-248C-22
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Best Local Similarity
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
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PRIOR APPLICATION NUMBER:
                                                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9426254.0
FILING DATE: 24-DEC-1994
APPLICATION NUMBER: GB 9:
FILING DATE: 23-MAR-195
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9:
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OTHER INFORMATION:
OTHER INFORMATION:
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STRANDEDNESS: sir
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/note= "D-CONFIGURATION"
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      GB 9513904.4
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Best Local Similarity
                                                                                                   FILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 2
SEQUENCE CHARACTERISTICS:
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ENFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 94
FILING DATE: 24-DEC-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                  OPERATING SYSTEM: PC-D
SOFTWARE: MS WORD
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                FILING DATE: 23-MAR-1995 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: DUTTA, Anand
TITLE OF INVENTION: FIB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: peptide
                             OMECULE TYPE:
                 EATURE:
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LOCATION:
                                               TOPOLOGY:
                                                       TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                         CLASSIFICATION:
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STRANDEDNESS: single
NAME/KEY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                             D.C.
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                                                                                     5 amino acids
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Peptide
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                            peptide
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24-JUNE-1997
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/note= "D-CONFIGURATION"
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/note= "N-ACETYL-D-ORNITHINE"
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Pred. No.
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1.7e+05;
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FILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 24:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 514
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: GB 9426254.0
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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LENGTH: 5 amino acids
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9-
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APPLICATION NUMBER: US/08/860,248C
                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                          FEATURE:
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CITY: Washington
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                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
STRANDEDNESS: sir
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                                                                                                                                NAME/KEY:
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nes 4; Conserv
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                                                                                                 LOCATION:
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20005-3918
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                                                                                                                                                                                                                                                                                                Peptide
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/note= "N-ACETYL-
                                  /product= "OTHER"
/note= "D-CONFIGURATION"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GB 9513904.4
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/note= "D-CONFIGURATION"
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/note= "N-ACETYL-LYSINE"
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Pred. No.
                                                                                                                                                                                                      "N-ACETYL-2,4-DIAMINO-BUTYRIC ACID"
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Query Match

78.38;

Score 18;

DВ

ω

Length

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US-08-860-248C-26
; Sequence 26, Application US/08860248C
; Patent NO. 6034056
; GENERAL INFORMATION:
; APPLICANT: DUTTA, Anand
; TITLE OF INVENTION: FIBRONECTIN AI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
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US-08-860-248C-25
                                                                                                                        RESULT 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:

PRIOR APPLICATION NUMBER: GB 9505905.1

FILING DATE: 23-MAR-1995

PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9513904.4

APPLICATION NUMBER: GB 9513904.4

APPLICATION NUMBER: GB 9513904.4

INPORMATION FOR SEO ID NO: 25:

SEQUENCE CHARACTERISTICS:

LENGTH: 5 amilio acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Lócal Similarity 100 Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Patent No. 6034056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 25, Application US/08860248C
                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                    Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: DUTTA, Anand
TITLE OF INVENTION: FIBRONECTIN ADHESION INHIBITORS
NUMBER OF SEQUENCES: 122
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC PC POS/MS-DOS
SOFTMARE: MS WORD
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9426254.0
FILING DATE: 24-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: peptide
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: US/08, FILING DATE: 24-JUNE-1997 CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: 1100 New CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 ildv 5
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2 ildv 5
                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: /product- "OTHER"
OTHER INFORMATION: /note- "N-ACETYL-2,4-DIAMINO-BUTYRIC ACID"
                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: Sir
                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY:
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                                                                                                                                                                                                               2 11dv 5
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20005-3918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E: Pillsbury Madison & Sutro, L.L.P.
                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    circular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     single
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FIBRONECTIN ADHESION INHIBITORS 122
                                                                                                                                                                                                                                                   78.3%; Score 18; DB 3; 1
100.0%; Pred. No. 1.7e+05
tive 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US/08/860, 248C
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; Mismatches 0;
                                                                                                                                                                                                                                                                                   Length 5;
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Search completed: June 10, 2002, 06:37:15 Job time: 38 sec
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Best Local Similarity
Matches 4; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: GB 99
FILING DATE: 07-JUL-1995
INFORMATION FOR SEQ ID NO: 26
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 24-JUNE-1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION UMBER: GB 9426254.0
FILING DATE: 24-DEC-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: Pillsbury Madison & Sutro, L.L.P.
STREET: 1100 New York Avenue, N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: GB 9505905.1 FILING DATE: 23-MAR-1995 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: MS WORD
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                  NAME/KEY: Peptide LOCATION: 1
OTHER INFORMATION: OTHER INFORMATION: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: 1100 New CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
STRANDEDNESS: sir
TOPOLOGY: circula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STATE: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/08/860,248C
                                                                                      2 ILDV 5
                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH:
                                                                                                                         2 ildv 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20005-3918
                                                                                                                                                                                                                                                                                                                                                                                                                                               5 amino acids
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                                                                                                                                                          78.3%; Score 18; DB ilarity 100.0%; Pred. No. 1. Conservative 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                            single
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/note= "N-ACETYL-2,4-DIAMINO-BUTYRIC ACID, D
CONFIGURATION"
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                                                                                                                                                                               DB 3; I
. 1.7e+05;
                                                                                                                                                                                               Length 5;
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L2
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L8
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L9
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L27
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L53
             0 S L52 AND L53
L54
=> fil hcaplus
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USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE COVERS 1907 - 10 Jun 2002 VOL 136 ISS 24 FILE LAST UPDATED: 7 Jun 2002 (20020607/ED)

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L43 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2002 ACS AN 1999:505686 HCAPLUS DN 131:139496

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gambel - 09 / 251073
     Fibronectin CS-1 peptidomimetics for inhibiting binding of CS-1 to VLA-4
ΤI
     and for treating immunoinflammatory conditions
     Arrhenius, Thomas S.; Elices, Mariano J.; Gaeta, Federico C. A.
IN
PA
     Cytel Corporation, USA
SO
     U.S., 81 pp.
     CODEN: USXXAM
DT
     Patent
LA
     English
     ICM C07K005-08
IC
NCL
     530331000
CC
     1-7 (Pharmacology)
     Section cross-reference(s): 34, 63
FAN.CNT 4
     PATENT NO.
                                           APPLICATION NO.
                                                             DATE
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     MARPAT 131:139496
AB
     Peptidomimetic compds. are disclosed that inhibit the binding between the
     VLA-4 and the fibronectin CS-1 compd. Pharmaceutical compns. contq. a
     contemplated compd. and methods for treating immunoinflammatory conditions
     using the compd. are also disclosed.
     fibronectin CS1 VLA4 binding inhibitor peptidomimetic; immunoinflammatory
ST
     disease pharmaceutical peptidomimetic; inflammation inhibitor
     peptidomimetic
     Cell adhesion molecules
IT
     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
        (ICAM-1 (intercellular adhesion mol. 1); fibronectin CS-1
        peptidomimetics for inhibiting binding of CS-1 to VLA-4 and for
        treating immunoinflammatory conditions)
IT
     Animal cell line
        (JURKAT; fibronectin CS-1 peptidomimetics for inhibiting binding of
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ΙT
     Histocompatibility antigens
     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
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        treating immunoinflammatory conditions)
ΙT
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     RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
        (VCAM-1; fibronectin CS-1 peptidomimetics for inhibiting binding of
        CS-1 to VLA-4 and for treating immunoinflammatory conditions)
ΙT
     Transplant and Transplantation
     Transplant and Transplantation
        (allotransplant, heart; fibronectin CS-1 peptidomimetics for inhibiting
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IT Heart

conditions)

(allotransplant; fibronectin CS-1 peptidomimetics for inhibiting binding of CS-1 to VLA-4 and for treating immunoinflammatory conditions)

binding of CS-1 to VLA-4 and for treating immunoinflammatory

IT Encephalomyelitis
(autoimmune; fibronectin CS-1 peptidomimetics for inhibiting binding of

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CS-1 to VLA-4 and for treating immunoinflammatory conditions)
ΙT
    Artery
        (coronary; fibronectin CS-1 peptidomimetics for inhibiting binding of
        CS-1 to VLA-4 and for treating immunoinflammatory conditions)
ΙŢ
        (delayed hypersensitivity; fibronectin CS-1 peptidomimetics
        for inhibiting binding of CS-1 to VLA-4 and for treating
        immunoinflammatory conditions)
ΙT
    Immunity
        (disorder; fibronectin CS-1 peptidomimetics for inhibiting binding of
        CS-1 to VLA-4 and for treating immunoinflammatory conditions)
ΙT
    Anti-inflammatory agents
       Antiasthmatics
    Antirheumatic agents
    Immunosuppressants
    Macrophage
    Peotidomimetics
    Rheumatoid arthritis
    Structure-activity relationship
    T cell (lymphocyte)
        (fibronectin CS-1 peptidomimetics for inhibiting binding of CS-1 to
        VLA-4 and for treating immunoinflammatory conditions)
ΙT
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    RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL
     (Biological study); PROC (Process)
        (fibronectin CS-1 peptidomimetics for inhibiting binding of CS-1 to
        VLA-4 and for treating immunoinflammatory conditions)
IT
    Cell migration
        (lymphocyte; fibronectin CS-1 peptidomimetics for inhibiting binding of
        CS-1 to VLA-4 and for treating immunoinflammatory conditions)
IT
    Drug delivery systems
        (prodrugs; fibronectin CS-1 peptidomimetics for inhibiting binding of
        CS-1 to VLA-4 and for treating immunoinflammatory conditions)
    Multiple sclerosis
TT
        (therapeutic agents; fibronectin CS-1 peptidomimetics for inhibiting
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        conditions)
    Integrins
IT
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              THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 12
(1) Anon; EP 361977 1990 HCAPLUS
(2) Anon; WO 91/03252 1991 HCAPLUS
(3) Anon; WO 93/12809 1993 HCAPLUS
(4) Eliccs, M; Cell Adhesion and Human Disease, Ciba Foundation Symposium 189
    1995, P79
(5) Furcht; US 5294511 1994 HCAPLUS
(6) Ioria; J Med Chem 1991, V34, P2615
(7) Komoriya, A; J Biol Chem 1991, V266, P15075 HCAPLUS
(8) Mousa, S; Clin Pharm 1993, V83, P373
(9) Mumford; US 5387504 1995 HCAPLUS
(10) Nowlin, D; J Biol Chem 1993, V268, P20352 HCAPLUS
(11) Pfaff, M; J Biol Chem 1994, V269, P20233 HCAPLUS
(12) Snyderman; US 4822606 1989 HCAPLUS
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ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS L43 AN 1997:207658 HCAPLUS

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RE

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DN
    126:199840
    Preparation of peptide derivatives as cell adhesion inhibitors
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    Lin, Ko-Chung; Adams, Steven P.; Castro, Alfredo C.; Zimmerman, Craig N.;
IN
    Cuervo, Julio Hernan; Lee, Wen-Cherng; Hammond, Charles E.; Carter, Mary
    Beth; Almquist, Ronald G.; Ensinger, Carol Lee
    Biogen, Inc., USA; Lin, Ko-Chung; Adams, Steven, P.; Castro,
PA
    Alfredo, C.; Zimmerman, Craig, N.; Cuervo, Julio, Hernan; Lee, Wen-Cherng;
    Hammond, Charles, E.; Carter, Mary, Beth; et al.
SO
     PCT Int. Appl., 117 pp.
    CODEN: PIXXD2
DT
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LA
    English
IC
    ICM C07K014-78
         C07K005-02; C07K005-06; C07K005-08; C07K005-10; A61K038-04;
         A61K038-39
     34-3 (Amino Acids, Peptides, and Proteins)
CC
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OS
    MARPAT 126:199840
    The present invention relates to novel peptide derivs. that are useful for
AΒ
    inhibition and prevention of cell adhesion and cell adhesion-mediated
    pathologies. This invention also relates to pharmaceutical formulations
   comprising these compds. and methods of using them for inhibition and
    prevention of cell adhesion and cell adhesion-mediated pathologies. The
    compds. and pharmaceutical compn. of this invention can be used as
    therapeutic or prophylactic agents. They are particularly well-suited for
    treatment of many inflammatory and autoimmune diseases. Thus, coupling of
     4-(2-MeC6H4NHCONH)C6H4CH2CO2H (prepn. given) with protected peptide
    H-Leu-Asp(OCH2Ph)-Val-OCH2Ph (prepn. given), followed by catalytic
    hydrogenolysis, gave cell adhesion inhibitor peptide 4-(2-
    MeC6H4NHCONH)C6H4CH2CO-Leu-Asp-Val-OH (I). All 408 prepd. peptide
    derivs., including I, inhibited VLA4-dependent adhesion to a bovine serum
    albumin conjugate with H-Cys-Tyr-Asp-Glu-Leu-Pro-Gln-Leu-Val-Thr-Leu-Pro-
    His-Pro-Asn-Leu-His-Gly-Pro-Glu-Ile-Leu-Asp-Val-Pro-Ser-Thr-OH, with IC50
    values of <1 mM.
    peptide prepn cell adhesion inhibitor; antiinflammatory drug peptide deriv
ST
    prepn; autoimmune disease treatment peptide deriv prepn
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(inhibitors; prepn. of peptide derivs. as cell adhesion inhibitors)

IT

Cell adhesion

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ΙT
     Anti-inflammatory drugs
     Autoimmune diseases
        (prepn. of peptide derivs. as cell adhesion inhibitors)
ΙT
     Peptides, preparation
     RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic
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33797-51-2,

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(prepn. of peptide derivs. as cell adhesion inhibitors)
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    RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic
    preparation); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); USES (Uses)
        (prepn. of peptide derivs. as cell adhesion inhibitors)
    187738-30-3DP, conjugate with bovine serum albumin
ΙT
    RL: BPR (Biological process); SPN (Synthetic preparation); BIOL
     (Biological study); PREP (Preparation); PROC (Process)
        (prepn. of peptide derivs. as cell adhesion inhibitors)
                                        75-31-0, Isopropylamine, reactions
     74-89-5, Methylamine, reactions
ΙT
                               octions /5-31-0, Isopropylamine, re
93-10-7, 2-Quinolinecarboxylic acid
     78-81-9, Isobutylamine
   2-Hydroxyaniline 98-09-9, Phenylsulfonyl chloride
                                                             98-68-0,
                                         98-98-6, Picolinic acid
     4-Methoxybenzenesulfonyl chloride
                                                                     100-46-9,
                              103-71-9, Phenyl isocyanate, reactions
    Benzylamine, reactions
    103-80-0, Phenylacetyl chloride
                                        108-91-8, Cyclohexylamine, reactions
    110-89-4, Piperidine, reactions
                                        110-91-8, Morpholine, reactions
    348-54-9, 2-Fluoroaniline
                                  501-52-0, Hydrocinnamic acid
                                                                  501-97-3,
     3-(4-Hydroxyphenyl)propionic acid
                                          504-29-0, 2-Aminopyridine
                                                                       614-68-6,
                                                                  1603-40-3,
                          1197-55-3, 4-Aminophenylacetic acid
    o-Tolyl isocyanate
                                 2393-23-9, 4-Methoxybenzylamine
                                                                    2462-31-9,
    2-Amino-3-methylpyridine
                                           2577-48-2, Proline methyl ester
    Glycine benzyl ester hydrochloride
                                  2748-02-9
                                              3373-59-9, Threonine methyl ester
     2620-50-0, Piperonylamine
                 3392-12-9
                                          4070-48-8, Valine methyl ester
     3392-09-4
                              3845-64-5
     5081-36-7, 3-Methoxy-4-nitrobenzoic acid
                                                 6066-82-6, N-Hydroxysuccinimide
     6624-49-3, 3-Isoquinolinecarboxylic acid
                                                              7536-58-5
                                                 7531-52-4
                                13798-75-9
                                             15761-39-4
                                                           16013-85-7,
     13139-15-6
                  13734-41-3
                                     16369-05-4, Valinol
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     2,6-Dichloro-3-nitropyridine
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4-Phenylbutyryl chloride 21760-98-5, Valine benzyl ester

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Eschenmoser's salt
                          38068-75-6
                                       39552-81-3, Methyl p-aminophenylacetate
     41324-66-7, Proline benzyl ester 42726-73-8, tert-Butyl methyl malonate
                  53363-89-6 129460-09-9
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     53308-95-5
     RL: RCT (Reactant)
        (prepn. of peptide derivs. as cell adhesion inhibitors)
                  40851-91-0P 67579-92-4P, 3-Methoxy-4-nitrobenzoyl chloride
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        (prepn. of peptide derivs. as cell adhesion inhibitors)
IT
     38533-61-8P
     RL: SPN (Synthetic preparation); PREP (Preparation)
        (prepn. of peptide derivs. as cell adhesion inhibitors)
=> fil reg
FILE 'REGISTRY' ENTERED AT 08:26:18 ON 10 JUN 2002
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DICTIONARY FILE UPDATES:
TSCA INFORMATION NOW CURRENT THROUGH January 7, 2002
  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.
Crossover limits have been increased. See HELP CROSSOVER for details.
.Calculated physical property data is now available. See HELP PROPERTIES
for more information. See STNote 27, Searching Properties in the CAS
Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf
=> d sqide can tot 146
L46 ANSWER 1 OF 9 REGISTRY COPYRIGHT 2002 ACS
     236101-05-6 REGISTRY
RN
     L-Proline, L-.alpha.-glutamyl-L-isoleucyl-L-leucyl-L-.alpha.-aspartyl-L-
CN
     valyl- (9CI) (CA INDEX NAME)
     PROTEIN SEQUENCE; STEREOSEARCH
FS
SOL 6
         1 EILDVP
SEQ
           =====
HITS AT:
           1-5
MF
     C31 H52 N6 O11
SR
     CA
                  CA, CAPLUS, USPATFULL
LC
     STN Files:
Absolute stereochemistry.
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1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:139496

L46 ANSWER 2 OF 9 REGISTRY COPYRIGHT 2002 ACS

RN 236101-04-5 REGISTRY

=====

 $\hbox{CN} \qquad \hbox{L-Valine, L-prolyl-L-.alpha.-glutamyl-L-isoleucyl-L-leucyl-L-.alpha.-} \\$

aspartyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

SQL 6

SEQ 1 PEILDV

HITS AT: 2-6

MF C31 H52 N6 O11

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

O CO2H

N S Pr-i

N S Bu-i CO2H

R Me Et

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:139496

L46 ANSWER 3 OF 9 REGISTRY COPYRIGHT 2002 ACS

RN 236101-02-3 REGISTRY

CN L-Valine, L-leucyl-L-histidylglycyl-L-prolyl-L-.alpha.-glutamyl-L-isoleucyl-L-leucyl-L-.alpha.-aspartyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

SQL 9

SEQ 1 LHGPEILDV

HITS AT: 5-9

MF C45 H73 N11 O14

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:139496

L46 ANSWER 4 OF 9 REGISTRY COPYRIGHT 2002 ACS

RN **236101-01-2** REGISTRY

CN L-Proline, L-histidylglycyl-L-prolyl-L-alpha.-glutamyl-L-isoleucyl-L-leucyl-L-alpha.-aspartyl-L-valyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

SQL 9

SEQ 1 HGPEILDVP

HITS AT: 4-8

MF C44 H69 N11 O14

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

PAGE 1-A

PAGE 1-B

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:139496

L46 ANSWER 5 OF 9 REGISTRY COPYRIGHT 2002 ACS

RN 236101-00-1 REGISTRY

CN L-Serine, glycyl-L-prolyl-L-alpha.-glutamyl-L-isoleucyl-L-leucyl-L-

.alpha.-aspartyl-L-valyl-L-prolyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

SQL 9

SEQ 1 GPEILDVPS

HITS AT: 3-7

MF C41 H67 N9 O15

-SR CA

LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

PAGE 1-A

PAGE 1-B

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:139496

L46 ANSWER 6 OF 9 REGISTRY COPYRIGHT 2002 ACS

RN 236100-99-5 REGISTRY

CN L-Valine, L-.alpha.-glutamyl-L-isoleucyl-L-leucyl-L-.alpha.-aspartyl-L-

valyl-L-prolyl-L-seryl-L-threonyl- (9CI) (CA INDEX NAME)

FS PROTEIN SEQUENCE; STEREOSEARCH

SQL 9

SEQ 1 EILDVPSTV

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HITS AT: 1-5

MF C43 H73 N9 O16

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

131:139496 REFERENCE 1:

ANSWER 7 OF 9 REGISTRY COPYRIGHT 2002 ACS L46

187738-30-3 REGISTRY RN

L-Threonine, L-cysteinyl-L-tyrosyl-L-.alpha.-aspartyl-L-.alpha.-glutamyl-L-CN leucyl-L-prolyl-L-glutaminyl-L-leucyl-L-valyl-L-threonyl-L-leucyl-L-prolyl-L-histidyl-L-prolyl-L-asparaginyl-L-leucyl-L-histidylglycyl-L-prolyl-L-.alpha.-glutamyl-L-isoleucyl-L-leucyl-L-alpha.-aspartyl-L-valyl-L-prolyl-

L-seryl- (9CI) (CA INDEX NAME)

OTHER NAMES:

4: PN: US6376538 SEQID: 4 unclaimed sequence CN

PROTEIN SEQUENCE; STEREOSEARCH FS

27 SQL

1 CYDELPQLVT LPHPNLHGPE ILDVPST SEQ

HITS AT: 20-24

C135 H209 N33 O42 S MF

SR CA

CA, CAPLUS, USPATFULL LC STN Files:

Absolute stereochemistry.

PAGE 1-A

PAGE 1-B

$$H_2N$$
 O
 $I-Bu$
 O
 S
 H
 H
 S
 H
 S

PAGE 1-D

6

2 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:325828

REFERENCE 2: 126:199840

L46 ANSWER 8 OF 9 REGISTRY COPYRIGHT 2002 ACS

RN 150525-67-0 REGISTRY

CN L-Valine, L-.alpha.-glutamyl-L-isoleucyl-L-leucyl-L-.alpha.-aspartyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Valine, N-[N-[N-(N-L-.alpha.-glutamyl-L-isoleucyl)-L-leucyl]-L-.alpha.-aspartyl]-

OTHER NAMES:

CN 23: PN: WOO004941 PAGE: 32 claimed sequence CN 2: PN: US6376538 SEQID: 2 unclaimed sequence CN 2: PN: WO0064474 PAGE: 19 unclaimed sequence

CN 2: PN: WO0064474 PAGE: 19 unclaimed sequence CN 457: PN: WO0069900 SEQID: 1142 unclaimed sequence

CN PN: US5962311 SEQID: 2 unclaimed sequence

FS PROTEIN SEQUENCE; STEREOSEARCH

SQL 5

SEQ 1 EILDV

====

HITS AT: 1-5

MF C26 H45 N5 O10

SR CA

LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL

Absolute stereochemistry.

16 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

16 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:325828

REFERENCE 2: 135:368937

REFERENCE 3: 134:21425

REFERENCE 4: 133:334056

REFERENCE 5: 132:142003

REFERENCE 6: 131:267956

REFERENCE 7: 131:139496

REFERENCE 8: 128:150383

REFERENCE 9: 128:18371

REFERENCE 10: 126:176918

L46 ANSWER 9 OF 9 REGISTRY COPYRIGHT 2002 ACS

RN 126235-03-8 REGISTRY

CN L-Threonine, glycyl-L-prolyl-L-alpha.-glutamyl-L-isoleucyl-L-leucyl-L-alpha.-aspartyl-L-valyl-L-prolyl-L-seryl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Threonine, N-[N-[1-[N-[N-[N-[N-[N-(1-glycyl-L-prolyl)-L-.alpha.-glutamyl]-L-isoleucýl]-L-leucyl]-L-.alpha.-aspartyl]-L-valyl]-L-prolyl]-L-seryl]-

OTHER NAMES:

CN 24: PN: WO0192542 SEQID: 25 claimed sequence

FS PROTEIN SEQUENCE; STEREOSEARCH

SOL 10

SEQ 1 GPEILDVPST

HITS AT: 3-7

MF C45 H74 N10 O17

SR CA

LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

PAGE 1-A

PAGE 1-B

11 REFERENCES IN FILE CA (1967 TO DATE)
11 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:32634

REFERENCE 2: 131:139496

REFERENCE 3: 130:163180

REFERENCE 4: 129:245488

REFERENCE 5: 126:14475

REFERENCE 6: 120:215235

REFERENCE 7: 119:201761

REFERENCE 8: 115:270674

REFERENCE 9: 115:254061

REFERENCE 10: 115:229941

=> fil hcaplus

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=> d all tot 144

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L44 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2002 ACS
```

- AN 2002:312019 HCAPLUS
- DN 136:325828
- TI Preparation of dipeptide derivatives as cell adhesion inhibitors
- IN Adams, Steven P.; Lin, Ko-Chung; Lee, Wen-Cherng; Castro, Alfredo C.; Zimmerman, Craig N.; Hammond, Charles E.; Liao, Yu-Sheng; Cuervo, Julio Hernan; Singh, Juswinder
- PA Biogen, Inc., USA
- SO U.S., 50 pp., Cont.-in-part of U.S. 6,306,840. CODEN: USXXAM
- DT Patent
- LA English
- IC ICM A61K031-357 ICS C07D317-46
- NCL 514466000
- CC 34-3 (Amino Acids, Peptides, and Proteins)

Section cross-reference(s): 1

FAN.CNT 2

I AIV.	PATENT NO.				KIND		DATE			APPLICATION NO.					DATE				
PI	US				B1		20011023			US 1997-875321 US 1995-376372 WO 1996-US1349			2	1995		-			
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			ES,	FΙ,	GB,	GE,	HU,	IS,	JP,	KE,	KG,	ΚP,	KR,	ΚZ,	LK,	LR,	LS,	LT,	
			LU,	LV,	MD,	MG,	MK,	MN,	MW,	MX,	NO,	ΝZ,	PL,	PT,	RO,	RU,	SD,	SE,	
			SG,																
		RW:													FR,				
			IT,	LU,											GA,		ML,	MR,	NE
	ΕP	EP 1142867			A	2				EP 2001-107877					19960118				
		R:	ΑT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	ΙT,	LI,	LU,	NL,	SE,	MC,	PT,	
			ΙE,	SI															
PRAI	US 1995-376372 WO 1996-US1349			W		19950123 19960118													
	ΕP	1996	-905	316	Α	3	1996	0118											
OS GI	MARPAT 136:325828																		

Novel dipeptide analogs I [X = CO2H, PO3H-, SO2R5, SO3H, OPO3H-, CO2R4; Y AΒ = CO, SO2, PO2; n = O-2; R1 = optionally substituted alkyl, alkenyl, alkynyl, aryl-fused cycloalkyl, cycloalkenyl, aryl, aralkyl, aralkenyl, aralkynyl, alkoxy, alkenyloxy, aralkoxy, alkylamino, alkenylamino, alkynylamino, aryloxy, arylamino, N-alkylurea-substituted alkyl, heterocyclyl; R2 = H, aryl, alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aralkyl; R2NCR3 = heterocyclic ring; R3 = natural, unnatural, modified, or substituted amino acid side chain; R4 = optionally substituted aryl, alkyl, cycloalkyl, alkenyl, cycloalkenyl, alkynyl, aralkyl, H, heterocyclyl, heterocyclylcarbonyl, aminocarbonyl, amido, alkylaminocarbonyl, arylaminocarbonyl, acylaminocarbonyl, acyl; R5 = alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, aralkyl, aralkenyl, aralkynyl] are prepd. as compds. useful for inhibition and prevention of cell adhesion and cell adhesion-mediated pathologies. This invention also relates to pharmaceutical formulations comprising these compds. and methods of using them for inhibition and prevention of cell adhesion and cell adhesion-mediated pathologies. The compds. and pharmaceutical compns. of this invention can be used as therapeutic or prophylactic agents. They are particularly well-suited for treatment of many inflammatory and autoimmune diseases. Thus, .beta.-amino acid-contg. dipeptide II, prepd. by std. methods, displayed an IC50 of <50 nM in a cell adhesion inhibition assay.

ST cell adhesion inhibitor dipeptide analog prepn; aminoacyl amino acid prepn antiinflammatory

IT Anti-inflammatory agents

Cell adhesion

(prepn. of .beta.-amino acid dipeptide derivs. as cell adhesion inhibitors)

IT Dipeptides

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of .beta.-amino acid dipeptide derivs. as cell adhesion inhibitors)

IT 181518-22-9P 181521-43-7P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(prepn. of .beta.-amino acid dipeptide derivs. as cell adhesion

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inhibitors)
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Dimethylamine, reactions
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Benzenepropanoic acid, .beta.-amino-, Methyl ester
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3-pyridylacetate
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              THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
       39
(1) Abraham, W; J Clin Invest 1994, V93, P776 HCAPLUS
(2) Anon; EP 0460679 1991 HCAPLUS
(3) Anon; EP 0519748 1992 HCAPLUS
(4) Anon; WO 9200995 1992 HCAPLUS
(5) Anon; WO 9208464 1992 HCAPLUS
(6) Anon; EP 0565896 1993 HCAPLUS
(7) Anon; WO 9308823 1993 HCAPLUS
(8) Anon; WO 9309795 1993 HCAPLUS
(9) Anon; WO 9402445 1994 HCAPLUS
(10) Anon; WO 9415958 1994 HCAPLUS
(11) Anon; WO 9423714 1994 HCAPLUS
(12) Anon; WO 9515973 1995 HCAPLUS
(13) Baldwin, J; 1988 HCAPLUS
(14) Boschelli; US 5434188 A 1995 HCAPLUS
(15) Chen, S; 1991 HCAPLUS
(16) Chisholm, P; Eur J Immunol 1993, V23, P682 HCAPLUS
(17) Elices, M; J Clin Invest 1994, V93, P405 MEDLINE
(18) Ferguson, T; Proc Natl Acad Sci USA 1991, V88, P8072 HCAPLUS
(19) Ferguson, T; The Journal of Immunology 1993, V150(4), P1172 HCAPLUS
(20) Goodman; Macromolecules 1976, V9, P1 HCAPLUS
(21) Greenstein; Chemistry of the Amino Acids V2, P1162
(22) Gruszecki, W; Liebigs Ann Chem 1988, P331 HCAPLUS
(23) Hemler, M; Annual Review of Immunology 1990, V8, P365 HCAPLUS
(24) Jiang; Tetrahedron Letters 1994, V35, P2121 HCAPLUS
(25) Kim; J Med Chem 1989, V32, P84 HCAPLUS
```

(26) Komoriya, A; Journal of Bio Chemistry 1991, V266(23), P15075 HCAPLUS

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(27) Lampi, K; 1992 HCAPLUS
(28) Lobb, R; The Pathophysiologic Role of .alpha.4 Integrins in Vivo 1994,
    V94, P1722 HCAPLUS
(29) Luly; US 4725583 A 1988 HCAPLUS
(30) Luly; US 4826815 A 1989 HCAPLUS
(31) McKenzie; US 5260277 A 1993 HCAPLUS
(32) Molossi, S; J Clin Invest 1995, V95, P2601 HCAPLUS
(33) Morales-Ducret, J; The Journal of Immunology 1992, V149(4), P1424 HCAPLUS
(34) Nowlin, D; The Journal of Biological Chemistry 1993, V268(27), P20352
    HCAPLUS
(35) Subasinghe; Journal of Medicinal Chemistry 1990, V33, P2734 HCAPLUS
(36) Thierry; J Med Chem 1990, V33, P2122 HCAPLUS
(37) Tjoeng; US 5314902 A 1994 HCAPLUS
(38) Wayner, E; The Journal of Cell Biology 1992, V116(2), P489 HCAPLUS
(39) Yednock, T; Nature 1992, V356, P63 HCAPLUS
    ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2002 ACS
AN
    2000:772477 HCAPLUS
DN
    133:334056
    Method for the treatment of fibrosis using an antagonist of the integrin
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    alpha-4 subunit
IN
    Gotwals, Philip; Lobb, Roy R.
PA
    Biogen, Inc., USA
SO
     PCT Int. Appl., 59 pp.
    CODEN: PIXXD2
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     ICS A61P011-00; A61P037-00
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    Disclosed is a method of treating fibrosis in a human or animal subject.
AΒ
    The method comprises administering to the subject an effective amt. of an
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ST
     fibrosis integrin alpha4 VLA4 antibody fragment
ΙT
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ΙT
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(Biological study); USES (Uses)

(anti-integrin .alpha.4 antibody-encoding; integrin .alpha.4 antibody or antagonist for treatment of fibrosis) Fusion proteins (chimeric proteins) IT RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (antibody; integrin .alpha.4 antibody or antagonist for treatment of fibrosis) ΙT Body fluid (bronchoalveolar lavage fluid; integrin .alpha.4 antibody or antagonist for treatment of fibrosis) ΙT Lung, disease (fibrosis; integrin .alpha.4 antibody or antagonist for treatment of fibrosis) Immunoglobulins IT RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (fragments; integrin .alpha.4 antibody or antagonist for treatment of fibrosis) IT Animal Fibrosis Leukocyte (integrin .alpha.4 antibody or antagonist for treatment of fibrosis) ΙT RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (integrin .alpha.4 antibody or antagonist for treatment of fibrosis) IT Ligands RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (integrin .alpha.4; integrin .alpha.4 antibody or antagonist for treatment of fibrosis) IT Antibodies RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (monoclonal; integrin .alpha.4 antibody or antagonist for treatment of fibrosis) IT Integrins RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process) (.alpha.4; integrin .alpha.4 antibody or antagonist for treatment of fibrosis) TΤ Integrins RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process) (.alpha.4.beta.1; integrin .alpha.4 antibody or antagonist for treatment of fibrosis) 304678-50-0 IT RL: PRP (Properties) (Unclaimed; method for the treatment of fibrosis using an antagonist of the integrin alpha-4 subunit) 136466-51-8 150525-67-0 187345-00-2 IT RL: PRP (Properties) (unclaimed sequence; method for the treatment of fibrosis using an antagonist of the integrin alpha-4 subunit) THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT RE (1) Athena Neurosciences Inc; WO 9519790 A 1995 HCAPLUS (2) Athena Neurosciences Inc; WO 9718838 A 1997 HCAPLUS (3) Biogen Inc; WO 9313798 A 1993 HCAPLUS (4) Biogen Inc; WO 9417828 A 1994 HCAPLUS (5) Hokibara, S; CLINICAL AND EXPERIMENTAL IMMUNOLOGY 1998, V114(2), P236 **HCAPLUS** (6) Lin, K; CURRENT OPINION IN CHEMICAL BIOLOGY 1998, V2(4), P453 HCAPLUS (7) Lobb, R; EUROPEAN RESPIRATORY JOURNAL, SUPPLEMENT 1996, V9(suppl 22), P104S

1993, V77, P292 MEDLINE
(10) Roy-Chaudhury, P; KIDNEY INTERNATIONAL 1996, V49(1), P127 MEDLINE

(8) Lobb, R; JOURNAL OF CLINICAL INVESTIGATION 1994, V94(5), P1722 HCAPLUS (9) Papadopoulos, T; VERHANDLUNGEN DER DEUTSCHEN GESELLSCHAFT FUR PATHOLOGIE

- (11) The Victoria University Of Manchester; WO 9711718 A 1997 HCAPLUS
- L44 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2002 ACS
- AN 2000:683175 HCAPLUS
- DN 134:4000
- TI Differential Induction of Gelatinase B (MMP-9) and Gelatinase A (MMP-2) in T Lymphocytes upon .alpha.4.beta.1-Mediated Adhesion to VCAM-1 and the CS-1 Peptide of Fibronectin
- AU Yakubenko, Valentin P.; Lobb, Roy R.; Plow, Edward F.; Ugarova, Tatiana P.
- CS Joseph J. Jacobs Center for Thrombosis and Vascular Biology, Department of Molecular Cardiology, Lerner Research Institute of the Cleveland Clinic Foundation, Cleveland, OH, 44195, USA
- SO Experimental Cell Research (2000), 260, 73-84 CODEN: ECREAL; ISSN: 0014-4827
- PB Academic Press
- DT Journal
- LA English
- CC 15-10 (Immunochemistry)
- Integrin .alpha.4.beta.1 on the surface of T lymphocytes interacts with AΒ vascular cell adhesion mol.-1 (VCAM-1) and fibronectin during migration of lymphocytes from the blood to sites of inflammation. Migrating lymphocytes actively modify their environment through a no. of mechanisms including proteolysis of the extracellular matrix by matrix metalloproteinases (MMP) synthesized by the cells. In this study, expression of MMP upon .alpha.4.beta.1-mediated adhesion of leukocytes to two major ligands, the IIICS-1 domain of fibronectin and VCAM-1, has been examd. Adhesion of T lymphoblastoid Jurkat cells to the CS-1 peptide induced expression of mRNA for two MMPs, gelatinase A (MMP-2) and gelatinase B (MMP-9). As evaluated by relative RT-PCR and Northern blot analyses, the level of mRNA was upregulated about 4- to 5-fold for both MMPs compared to control cells maintained in suspension. With time, both enzymes were detected in conditioned media and inside the cells, and their identities were verified by Western blotting and gelatin zymog. Adhesion of Jurkat cells to the second major .alpha.4.beta.1 ligand, VCAM-1, upregulated mRNA for MMP-2 (3.5-fold) and failed to induce expression of mRNA for MMP-9. Accordingly, only MMP-2 protein was detected in conditioned media of cells adherent to VCAM-1. Occupancy of .alpha.4.beta.1 on the surface of suspended cells with sol. CS-1 peptide or VCAM-1 did not upregulate synthesis and release of MMPs. A similar pattern of induction of MMPs after adhesion to CS-1 and VCAM-1 was obsd. in T lymphocytes isolated from human blood. These results demonstrate that adhesion of T lymphocytes through .alpha.4.beta.1 to different ligands, which bind to similar or overlapping sites in the integrin, induces intracellular events leading to distinct patterns of MMPs biosynthesis. (c) 2000 Academic Press.
- ST T lymphocyte adhesion integrin VCAM fibronectin gelatinase
- IT Cell adhesion molecules

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(VCAM-1; differential induction of gelatinase B (MMP-9) and gelatinase A (MMP-2) in T lymphocytes upon .alpha.4.beta.1-mediated adhesion to VCAM-1 and CS-1 peptide of fibronectin)

IT T cell (lymphocyte)

(adhesion; differential induction of gelatinase B (MMP-9) and gelatinase A (MMP-2) in T lymphocytes upon .alpha.4.beta.1-mediated adhesion to VCAM-1 and CS-1 peptide of fibronectin)

IT Inflammation

Signal transduction, biological

(differential induction of gelatinase B (MMP-9) and gelatinase A (MMP-2) in T lymphocytes upon .alpha.4.beta.1-mediated adhesion to VCAM-1 and CS-1 peptide of fibronectin)

IT mRNA

IT

IT

IT

IT

RE

RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process) (differential induction of gelatinase B (MMP-9) and gelatinase A (MMP-2) in T lymphocytes upon .alpha.4.beta.1-mediated adhesion to VCAM-1 and CS-1 peptide of fibronectin) Fibronectins RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process) (differential induction of gelatinase B (MMP-9) and gelatinase A (MMP-2) in T lymphocytes upon .alpha.4.beta.1-mediated adhesion to VCAM-1 and CS-1 peptide of fibronectin) Integrins RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process) (.alpha.4.beta.1; differential induction of gelatinase B (MMP-9) and gelatinase A (MMP-2) in T lymphocytes upon .alpha.4.beta.1-mediated adhesion to VCAM-1 and CS-1 peptide of fibronectin) 107978-77-8 RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process) (differential induction of gelatinase B (MMP-9) and gelatinase A (MMP-2) in T lymphocytes upon .alpha.4.beta.1-mediated adhesion to VCAM-1 and CS-1 peptide of fibronectin) 146480-36-6, Gelatinase B 146480-35-5, Gelatinase A RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative) (differential induction of gelatinase B (MMP-9) and gelatinase A (MMP-2) in T lymphocytes upon .alpha.4.beta.1-mediated adhesion to VCAM-1 and CS-1 peptide of fibronectin) THERE ARE 66 CITED REFERENCES AVAILABLE FOR THIS RECORD RE.CNT (1) Alon, R; J Cell Biol 1995, V128, P1243 HCAPLUS (2) Aoudjit, F; J Immunol 1998, V160, P2967 HCAPLUS (3) Birkedal-Hansen, H; Crit Rev Oral Biol Med 1993, V4, P197 MEDLINE (4) Birkedal-Hansen, H; Curr Opin Cell Biol 1995, V7, P728 HCAPLUS (5) Birkedal-Hansen, H; J Periodontal Res 1993, V28, P500 HCAPLUS (6) Carlos, T; Blood 1990, V76, P965 HCAPLUS(7) Carlos, T; Blood 1994, V84, P2068 HCAPLUS (8) Chan, B; J Biol Chem 1992, V267, P8366 HCAPLUS (9) Chan, P; J Biol Chem 1993, V268, P24655 HCAPLUS (10) Chen, L; J Biol Chem 1999, V274, P13167 HCAPLUS (11) Chomczynski, P; Anal Biochem 1987, V162, P156 HCAPLUS (12) Clark, E; J Biol Chem 1994, V269, P28859 HCAPLUS (13) Clements, J; J Cell Sci 1994, V107, P2127 HCAPLUS (14) Corcoran, M; J Biol Chem 1995, V270, P10365 MEDLINE (15) Dominguez-Jimenez, C; Cell Adhesion Commun 1996, V4, P251 HCAPLUS (16) Elices, M; Cell 1990, V60, P577 HCAPLUS (17) Elices, M; J Clin Invest 1994, V93, P405 MEDLINE (18) Erle, D; J Biol Chem 1991, V266, P11009 HCAPLUS (19) Esparza, J; Blood 1999, V94, P2754 HCAPLUS (20) ffrench-Constant, C; Exp Cell Res 1995, V221, P261 HCAPLUS (21) Finke, J; Cancer Res 1993, V53, P5613 MEDLINE (22) Garcia-Pardo, A; J Immunol 1990, V144, P3361 HCAPLUS (23) Giannelli, G; Science 1997, V277, P225 HCAPLUS (24) Graesser, D; Lab Invest 1998, V78, P1445 HCAPLUS (25) Hocking, D; J Cell Biol 1998, V141, P241 HCAPLUS (26) Humphries, M; J Biol Chem 1987, V262, P6886 HCAPLUS (27) Humphries, M; J Cell Biol 1986, V103, P2637 HCAPLUS (28) Hynes, R; Fibronectins 1990 (29) Iida, J; J Cell Biol 1992, V118, P431 HCAPLUS

(30) Issekutz, T; J Immunol 1991, V147, P4178 MEDLINE (31) Kambara, C; J Neuroimmunol 1999, V99, P242 HCAPLUS

- (32) Kanemoto, T; Proc Natl Acad Sci USA 1990, V87, P2279 HCAPLUS
- (33) Khan, K; J Biol Chem 1997, V272, P8270 HCAPLUS
- (34) Komoriya, A; J Biol Chem 1991, V266, P15075 HCAPLUS
- (35) Lobb, R; J Immunol 1991, V147, P124 HCAPLUS
- (36) Makarem, R; J Biol Chem 1994, V269, P4005 HCAPLUS
- (37) Masumoto, A; J Biol Chem 1993, V268, P228 HCAPLUS
- (38) Mohri, H; Exp Cell Res 1996, V222, P326 HCAPLUS
- (39) Mould, A; EMBO J 1991, V10, P4089 HCAPLUS
- (40) Moyano, J; J Biol Chem 1997, V272, P24832 HCAPLUS
- (41) Moyano, J; J Biol Chem 1999, V274, P135 HCAPLUS (42) Newham, P; J Biol Chem 1997, V272, P19429 HCAPLUS
- (43) Nojima, Y; J Exp Med 1992, V175, P1045 HCAPLUS
- (44) Osborn, L; Cell 1989, V59, P1203 HCAPLUS
- (45) Osborn, L; J Cell Biol 1994, V124, P601 HCAPLUS
- (46) Osborn, L; J Exp Med 1992, V176, P99 HCAPLUS
- (47) Pepinsky, B; J Biol Chem 1992, V267, P17820 HCAPLUS
- (48) Porter, J; Trends Cell Biol 1998, V8, P390 HCAPLUS
- (49) Rice, G; J Exp Med 1990, V171, P1369 HCAPLUS
- (50) Romanic, A; J Cell Biol 1994, V125, P1165 HCAPLUS
- (51) Ruegg, C; J Cell Biol 1992, V117, P179 HCAPLUS
- (52) Sanchez-Aparicio, P; J Cell Biol 1994, V126, P271 HCAPLUS
- (53) Schwartz, B; J Clin Invest 1990, V85, P2019 HCAPLUS
- (54) Shapiro, S; J Biol Chem 1993, V268, P8170 HCAPLUS
- (55) Shih, P; J Clin Invest 1999, V103, P613 HCAPLUS
- (56) Taichman, D; Cell Regul 1991, V2, P347 HCAPLUS
- (57) Turpeenniemi-Hujanen, T; J Biol Chem 1986, V261, P1883 HCAPLUS
- (58) Ugarova, T; Biochemistry 1996, V35, P10913 HCAPLUS
- (59) Vonderheide, R; J Cell Biol 1994, V125, P215 HCAPLUS
- (60) Vonderheide, R; J Exp Med 1992, V175, P1433 HCAPLUS
- (61) Wang, J; Proc Natl Acad Sci USA 1995, V92, P5714 HCAPLUS
- (62) Wayner, E; J Cell Biol 1989, V109, P1321 HCAPLUS
- (63) Wayner, E; J Cell Biol 1992, V116, P489 HCAPLUS
- (64) Werb, Z; J Cell Biol 1989, V109, P877 HCAPLUS
- (65) Xie, B; J Biol Chem 1998, V273, P11576 HCAPLUS
- (66) Yednock, T; Nature 1992, V356, P63 HCAPLUS
- ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2002 ACS T.44
- AN 1999:216816 HCAPLUS
- 130:321465 DN
- ΤI Comparative genomes of Chlamydia pneumoniae and C. trachomatis
- AU Kalman, Sue; Mitchell, Wayne; Marathe, Rekha; Lammel, Claudia; Fan, Jun; Hyman, Richard W.; Olinger, Lynn; Grimwood, Jane; Davis, Ronald W.; Stephens, Richard S.
- Stanford DNA Sequencing and Technology, Center, Stanford University, CS Stanford, CA, 94305, USA
- SO Nature Genetics (1999), 21(4), 385-389
- CODEN: NGENEC; ISSN: 1061-4036
- PB Nature America
- DΤ Journal
- LA English
- 3-3 (Biochemical Genetics) CC Section cross-reference(s): 6, 7, 10
- Chlamydia are obligate intracellular eubacteria that are phylogenetically AΒ sepd. from other bacterial divisions. C. trachomatis and C. pneumoniae are both pathogens of humans but differ in their tissue tropism and spectrum of diseases. C. pneumoniae is a newly recognized species of Chlamydia that is a natural pathogen of humans, and causes pneumonia and bronchitis. In the United States, approx. 10% of pneumonia cases and 5% of bronchitis cases are attributed to C. pneumoniae infection. Chronic disease may result following respiratory-acquired infection, such as reactive airway disease, adult-onset asthma and potentially lung In addn., C. pneumoniae infection has been assocd. with atherosclerosis. C. trachomatis infection causes trachoma, an ocular

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infection that leads to blindness, and sexually transmitted diseases such
as pelvic inflammatory disease, chronic pelvic pain, ectopic pregnancy and
epididymitis. Although relatively little is known about C. trachomatis
biol., even less is known concerning C. pneumoniae. Comparison of the C.
pneumoniae genome with the C. trachomatis genome will provide an
understanding of the common biol. processes required for infection and
survival in mammalian cells. Genomic differences are implicated in the
unique properties that differentiate the two species in disease spectrum.
Anal. of the 1,230,230-nt C. pneumoniae genome revealed 214 protein-coding
sequences not found in C. trachomatis, most without homologues to other
known sequences. Prominent comparative findings include expansion of a
novel family of 21 sequence-variant outer-membrane proteins, conservation
of a type-III secretion virulence system, three serine/threonine protein
kinases and a pair of parologous phospholipase-D-like proteins, addnl.
purine and biotin biosynthetic capability, a homolog for arom. amino acid
(tryptophan) hydroxylase and the loss of tryptophan biosynthesis genes.
sequence Chlamydia pneumoniae genome; species difference Chlamydia
trachomatis pneumoniae genome sequence comparison
Proteins, specific or class
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
(Biological study)
   (Pmp (polymorphic membrane protein); comparative genomes of Chlamydia
   pneumoniae and C. trachomatis)
Chlamydia trachomatis
Genome
   (comparative genomes of Chlamydia pneumoniae and C. trachomatis)
Chlamydia pneumoniae
   (genomic sequence of; comparative genomes of Chlamydia pneumoniae and
   C. trachomatis)
DNA sequences
Protein sequences
   (of Chlamydia pneumoniae)
Gene, microbial
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP
(Properties); BIOL (Biological study); OCCU (Occurrence)
   (pmp; comparative genomes of Chlamydia pneumoniae and C. trachomatis)
75432-95-0, Arom. amino acid oxidase
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP
(Properties); BIOL (Biological study); OCCU (Occurrence)
   (C. pneumoniae gene for; comparative genomes of Chlamydia pneumoniae
   and C. trachomatis)
135946-71-3, Protein MOMP (Chlamydia pneumoniae strain IOL-207 precursor
           136363-37-6, Protein (Chlamydia pneumoniae clone pLC3
reduced)
71.5-kilodalton reduced)
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Protein (Chlamydia pneumoniae gene yqeV)

223701-57-3, Protein (Chlamydia

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        (amino acid sequence; comparative genomes of Chlamydia pneumoniae and
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                             223729-83-7
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL
```

(Biological study)

(nucleotide sequence; comparative genomes of Chlamydia pneumoniae and C. trachomatis)

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD RE

- (1) Altschul, S; Nucleic Acids Res 1997, V25, P3389 HCAPLUS
- (2) Campbell, L; J Clin Microbiol 1987, V25, P1911 HCAPLUS
- (3) Emre, U; J Infect Dis 1995, V172, P265 MEDLINE
- (4) Fong, I; J Clin Microbiol 1997, V35, P48 MEDLINE
- (5) Grayston, J; Int J Syst Bacteriol 1989, V39, P88
- (6) Hahn, D; Epidemiol Infect 1996, V117, P513 MEDLINE
- (7) Kuo, C; Arterioscler Thromb 1993, V13, P1501 MEDLINE
- (8) Kuo, C; Clin Microbiol Rev 1995, V8, P451 MEDLINE
- (9) Kuo, C; J Infect Dis 1993, V167, P841 MEDLINE
- (10) Kuo, C; Proc Natl Acad Sci USA 1995, V92, P6911 HCAPLUS
- (11) Laurila, A; Int J Cancer 1997, V74, P31 MEDLINE
- (12) Longbottom, D; FEMS Microbiol Lett 1998, V164, P111 HCAPLUS
- (13) Mitchell, W; Proceedings of the Ninth International Symposium on Human Chlamydial Infection 1998, P543
- (14) Mlot, C; Science 1996, V272, P1422 HCAPLUS
- (15) Muhlestein, J; J Am Coll Cardiol 1996, V27, P1555 MEDLINE
- (16) Rasmussen, S; J Clin Invest 1997, V99, P77 HCAPLUS
- (17) Rockey, D; Infect Immun 1994, V62, P106 HCAPLUS
- (18) Rockey, D; Mol Microbiol 1995, V15, P617 HCAPLUS
- (19) Salzberg, S; Nucleic Acids Res 1997, V26, P544
- (20) Schachter, J; West J Med 1990, V153, P523 MEDLINE
- (21) Stephens, R; Infect Agents Dis 1992, V1, P279 MEDLINE
- (22) Stephens, R; Science 1998, V282, P754 HCAPLUS
- (23) Thompson, J; Nucleic Acids Res 1994, V22, P4673 HCAPLUS

=> sel hit rn 144 E11 THROUGH E16 ASSIGNED

=> fil reg

FILE 'REGISTRY' ENTERED AT 08:27:17 ON 10 JUN 2002 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2002 American Chemical Society (ACS)

7 JUN 2002 HIGHEST RN 427375-75-5 STRUCTURE FILE UPDATES: DICTIONARY FILE UPDATES: 7 JUN 2002 HIGHEST RN 427375-75-5

TSCA INFORMATION NOW CURRENT THROUGH January 7, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS

Registry File, for complete details: http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf => d sqide can tot ANSWER 1 OF 4 REGISTRY COPYRIGHT 2002 ACS RN 223737-50-6 REGISTRY CN L-Lysine, L-methionyl-L-.alpha.-aspartyl-L-leucyl-L-glutaminyl-L-alanyl-Lphenylalanyl-L-.alpha.-glutamyl-L-isoleucyl-L-leucyl-L-.alpha.-aspartyl-Lvalyl-L-glutaminylglycyl-L-methionyl-L-leucyl-L-threonyl-L-.alpha.aspartyl-L-glutaminyl-L-arginyl-L-lysyl-L-histidyl-L-isoleucyl-Lglutaminyl-L-methionyl-L-leucyl-L-histidyl-L-lysyl-L-histidyl-Lasparaginyl-L-seryl-L-isoleucyl-L-.alpha.-glutamyl-L-isoleucyl-Lphenylalanyl-L-leucyl-L-seryl-L-asparaginyl-L-methionyl-L-valyl-L-valyl-L-.alpha.-glutamyl-L-valyl-L-lysyl-L-leucyl-L-phenylalanyl-L-phenylalanyl-Llysyl-L-threonyl-L-leucyl- (9CI) (CA INDEX NAME) OTHER NAMES: GenBank AE001651-derived protein GI 4376987 CN GenBank AP002547-derived protein GI 8979057 CN CN Protein (Chlamydia pneumoniae gene CPn0685) Protein (Chlamydia pneumoniae strain J138 gene CPj0685) CN FS PROTEIN SEQUENCE SQL 50 1 MDLOAFEILD VOGMLTDORK HIQMLHKHNS IEIFLSNMVV EVKLFFKTLK SEQ HITS AT: 7-11 MFC270 H436 N70 O73 S4 CI MAN SR CA LC STN Files: CA, CAPLUS 2 REFERENCES IN FILE CA (1967 TO DATE) 2 REFERENCES IN FILE CAPLUS (1967 TO DATE) 134:232463 REFERENCE 130:321465 REFERENCE 2: L56 ANSWER 2 OF 4 REGISTRY COPYRIGHT 2002 ACS RN **223710-22-3** REGISTRY Synthetase, methionyl-transfer ribonucleate (Chlamydia pneumoniae gene CN metG) (9CI) (CA INDEX NAME) OTHER NAMES: CN GenBank AE001598-derived protein GI 4376385 Methionyl-tRNA synthetase (Chlamydia pneumoniae gene metG) CN FS PROTEIN SEQUENCE 551 SQL 1 MPQKVLITSA LPYANGPLHF GHIAGVYLPA DVYARFRRLL GDDVLYICGS SEQ 51 DEFGIAITLN ADREGLGYQE YVDMYHKLHK DTFEKLGFAL DFFSRTTNPF 101 HAELVQDFYS QLKASGLIEN RISEQLYSEQ EQRFLADRYV EGTCPRCGFD 151 HARGDECQSC GADYEAIDLI GPKSKISGVE LVKKETEHSY FLLDRMKDAL 201 LSFIQGCYLP DHVRKFVVDY IEHVRSRAIT RDLSWGIPVP DFPGKVFYVW 251 FDAPIGYISG TMEWAASQGN PDEWKRFWLE DGVEYVQFIG KDNLPFHSVV 301 FPAMELGQKL DYKKVDALVV SEFYLLEGRQ FSKSEGNYVD MDKFLSSYSL 351 DKLRYVLAAT APETSDSEFT FLDFKTRCNS ELVGKFGNFI NRVLAFAEKN 401 HYDKLSYHSV VLEDSDRAFL EEARQLVRDA EKCYREYSLR KATSVIMSLA 451 ALGNVYFNQQ APWKLLKEGT RERVEAILFC ACYCQKLLAL ISYPIIPESA 501 VAIWEMISPK SLENCNLDTM YARDLWKEEI LDVINEEFHL KSPRLLFTTV

551 E HITS AT: 529-533 MF Unspecified

CI MAN SR CA

LC STN Files: CA, CAPLUS

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:321465

L56 ANSWER 3 OF 4 REGISTRY COPYRIGHT 2002 ACS

RN 136466-51-8 REGISTRY

CN L-Threonine, L-.alpha.-glutamyl-L-isoleucyl-L-leucyl-L-.alpha.-aspartyl-L-valyl-L-prolyl-L-seryl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Threonine, N-[N-[N-[N-[N-(N-L-.alpha.-glutamyl-L-isoleucyl)-L-leucyl]-L-.alpha.-aspartyl]-L-valyl]-L-prolyl]-L-seryl]-

OTHER NAMES:

CN 1: PN: US6376538 SEQID: 1 unclaimed sequence

CN 1: PN: WO0064474 PAGE: 19 unclaimed sequence

CN 24: PN: WO0004941 PAGE: 32 claimed sequence

CN 458: PN: WO0069900 SEQID: 1143 unclaimed sequence

CN 47: PN: US6051429 SEQID: 48 unclaimed sequence

FS PROTEIN SEQUENCE; STEREOSEARCH

SQL 8

SEQ 1 EILDVPST

HITS AT: 1-5

MF C38 H64 N8 O15

CI COM

SR CA

LC STN Files: CA, CAPLUS, CHEMCATS, TOXCENTER, USPATFULL

Absolute stereochemistry.

- 17 REFERENCES IN FILE CA (1967 TO DATE)
- 2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
- 17 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:336176

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L56 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2002 ACS
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CN
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     3: PN: WO0187071 SEQID: 4 unclaimed sequence
     4: PN: US20020012942 SEQID: 4 claimed protein
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                  CA, CANCERLIT, CAPLUS, CHEMCATS, MEDLINE, TOXCENTER,
       USPATFULL
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Absolute stereochemistry.

PAGE 1-A

PAGE 1-B

PAGE 1-C

PAGE 1-D

32 REFERENCES IN FILE CA (1967 TO DATE)

3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

32 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 136:336176

REFERENCE 2: 136:145279

REFERENCE 3: 135:366749

REFERENCE 4: 134:4000

REFERENCE 5: 133:261094

REFERENCE 6: 132:289590

REFERENCE 7: 132:88194

REFERENCE 8: 131:175085

REFERENCE 9: 131:175083

REFERENCE 10: 131:125484

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FILE 'USPATFULL' ENTERED AT 08:27:50 ON 10 JUN 2002 CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 08:27:50 ON 10 JUN 2002 CA INDEXING COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

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L50 ANSWER 1 OF 13 USPATFULL

AN 2002:88519 USPATFULL

TI Cell adhesion inhibitors

IN Adams, Steven P., Andover, MA, United States
Lin, Ko-Chung, Lexington, MA, United States
Lee, Wen-Cherng, Lexington, MA, United States
Castro, Alfredo C., Woburn, MA, United States
Zimmerman, Craig N., Somerville, MA, United States
Hammond, Charles E., Burlington, MA, United States
Liao, Yu-Sheng, Lexington, MA, United States
Cuervo, Julio Hernan, Arlington, MA, United States

Singh, Juswinder, Malden, MA, United States Biogen, Inc., Cambridge, MA, United States (U.S. corporation) PA PΙ В1 20020423 US 6376538 WO 9622966 19960801 US 1997-875321 19970919 (8) ΑI WO 1996-US1349 19960118 19970919 PCT 371 date Continuation-in-part of Ser. No. US 1995-376372, filed on 23 Jan 1995, RLI now patented, Pat. No. US 6306840 DT Utility FS GRANTED EXNAM Primary Examiner: Aulakh, Charanjit S. Fish & Richardson P.C. LREP Number of Claims: 56 CLMN ECL Exemplary Claim: 1 DRWN 0 Drawing Figure(s); 0 Drawing Page(s) LN.CNT 4655 CAS INDEXING IS AVAILABLE FOR THIS PATENT. The present invention relates to novel compounds that are useful for AB inhibition and prevention of cell adhesion and cell adhesion-mediated pathologies. This invention also relates to pharmaceutical formulations comprising these compounds and methods of using them for inhibition and prevention of cell adhesion and cell adhesion-mediated pathologies. The compounds and pharmaceutical compositions of this invention can be used as therapeutic or prophylactic agents. They are particularly well-suited for treatment of many inflammatory and autoimmune diseases. CAS INDEXING IS AVAILABLE FOR THIS PATENT. 136466-51-8 150525-67-0 187738-30-3 (unclaimed sequence; prepn. of dipeptide derivs. as cell adhesion inhibitors) L50 ANSWER 2 OF 13 USPATFULL AN 2002:84902 USPATFULL ΤI Nucleic acids, proteins and antibodies Rosen, Craig A., Laytonsville, MD, UNITED STATES IN Ruben, Steven M., Olney, MD, UNITED STATES US 2002044941 20020418 PΙ A1 US 2001-925302 A1 20010810 (9) AΤ Continuation-in-part of Ser. No. WO 2000-US5918, filed on 8 Mar 2000, RLI UNKNOWN PRAI US 1999-124270P 19990312 (60) DT Utility FS APPLICATION LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850 Number of Claims: 23 ECL _ Exemplary Claim: 1 _ · · DRWN No Drawings LN.CNT 21121 CAS INDEXING IS AVAILABLE FOR THIS PATENT. AΒ The present invention relates to novel lung cancer related polynucleotides, the polypeptides encoded by these polynucleotides herein collectively referred to as "lung cancer antigens," and antibodies that immunospecifically bind these polypeptides, and the use of such lung cancer polynucleotides, antigens, and antibodies for detecting, treating, preventing and/or prognosing disorders of the lung, including, but not limited to, the presence of lung cancer and lung cancer metastases. More specifically, isolated lung cancer nucleic acid molecules are provided encoding novel lung cancer polypeptides. Novel lung cancer polypeptides and antibodies that bind to these polypeptides are provided. Also provided are vectors, host cells, and recombinant and synthetic methods for producing human lung cancer polynucleotides,

polypeptides, and/or antibodies. The invention further relates to

diagnostic and therapeutic methods useful for diagnosing, treating, preventing and/or prognosing disorders related to the lung, including lung cancer, and therapeutic methods for treating such disorders. The invention further relates to screening methods for identifying agonists and antagonists of polynucleotides and polypeptides of the invention. The invention further relates to methods and/or compositions for inhibiting or promoting the production and/or function of the polypeptides of the invention.

CAS INDEXING IS AVAILABLE FOR THIS PATENT. 409148-95-4P (amino acid sequence; human nucleic acids and their encoded proteins and antibodies assocd. with lung cancer) L50 ANSWER 3 OF 13 USPATFULL 2002:78727 USPATFULL AN INTEGRIN-TARGETING VECTORS HAVING TRANSFECTION ACTIVITY ΤI HART, STEPHEN L., LONDON, UNITED KINGDOM IN PΙ US 2002042384 **A**1 20020411 ΑI US 1999-424656 Α1 19991129 (9) WO 1998-GB1577 19980529 PRAI GB 1997-11115 19970529 DTUtility FS APPLICATION LREP NIXON & VANDERHYE, 1100 NORTH GLEBE ROAD, 8TH FLOOR, ARLINGTON, VA, 222014714 Number of Claims: 55 CLMN ECL Exemplary Claim: 1 DRWN 9 Drawing Page(s) LN.CNT 1527 CAS INDEXING IS AVAILABLE FOR THIS PATENT. A complex that comprises (i) a nucleic acid, (ii) an integrin-binding AB component, for example, an integrin-binding peptide, (iii) a polycationic nucleic acid-binding component, for example, oligolysine, and (iv) a lipid component, for example, a cationic liposome, has transfection activity. CAS INDEXING IS AVAILABLE FOR THIS PATENT. 216964-48-6 (integrin-targeting vectors having transfection activity) ANSWER 4 OF 13 USPATFULL L50 ΑN 2001:93479 USPATFULL ΤI Cell adhesion inhibitors IN Lin, Ko-Chung, Lexington, MA, United States Adams, Steven P., Andover, MA, United States Castro, Alfredo C., Woburn, MA, United States Zimmerman, Craig N., Somerville, MA, United States Cuervo, Julio Hernan, Cambridge, MA, United States Lee, Wen-Cherng, Lexington, MA, United States Hammond, Charles E., Burlington, MA, United States Carter, Mary Beth, Belmont, MA, United States Almquist, Ronald G., Lexington, MA, United States Biogen, Inc., Cambridge, MA, United States (U.S. corporation) PΑ В1 20010619 ΡI US 6248713 US 1995-498237 19950711 (8) ΑI DT Utility FS GRANTED EXNAM Primary Examiner: Celsa, Bennett Fish & Richardson P.C. LREP

Number of Claims: 13

Exemplary Claim: 1

No Drawings

CLMN ECL

DRWN

LN.CNT 2501

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention relates to novel compounds that are useful for inhibition and prevention of cell adhesion and cell adhesion-mediated pathologies. This invention also relates to pharmaceutical formulations comprising these compounds and methods of using them for inhibition and prevention of cell adhesion and cell adhesion-mediated pathologies. The compounds and pharmaceutical compositions of this invention can be used as therapeutic or prophylactic agents. They are particularly well-suited for treatment of many inflammatory and autoimmune diseases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT. 187738-30-3DP, conjugate with bovine serum albumin TΨ (prepn. of peptide derivs. as cell adhesion inhibitors) 187738-30-3P IT (prepn. of peptide derivs. as cell adhesion inhibitors) L50 ANSWER 5 OF 13 USPATFULL ΑN 2001:79133 USPATFULL ΤI Cell adhesion inhibitors Lin, Ko-Chung, Lexington, MA, United States IN Adams, Steven P., Andover, MA, United States Castro, Alfredo C., Woburn, MA, United States Zimmerman, Craig N., Topsfield, MA, United States Cuervo, Julio Hernan, Arlington, MA, United States Lee, Wen-Cherng, Lexington, MA, United States Hammond, Charles E., Burlington, MA, United States Carter, Mary Beth, Belmont, MA, United States Almquist, Ronald G., Lexington, MA, United States Biogen, Inc., Cambridge, MA, United States (U.S. corporation) PA 20010529 PΙ US 6239108 В1 19970130 WO 9703094 US 1998-983391 19980810 (8) ΑI WO 1996-US11570 19960711 19980810 PCT 371 date 19980810 PCT 102(e) date DΤ Utility FS Granted Primary Examiner: Davenport, Avis M. EXNAM Fish & Richardson P.C. LREP CLMN Number of Claims: 49 ECL Exemplary Claim: 1 DRWN No Drawings LN.CNT 3146 CAS INDEXING IS AVAILABLE FOR THIS PATENT. AΒ

The present invention relates to novel compounds that are useful for inhibition and prevention of cell adhesion and cell adhesion-mediated pathologies. This invention also relates to pharmaceutical formulations comprising these compounds and methods of using them for inhibition and prevention of cell adhesion and cell adhesion-mediated pathologies. The compounds and pharmaceutical compositions of this invention can be used as therapeutic or prophylactic agents. They are particularly well-suited for treatment of many inflammatory and autoimmune diseases.

```
Scott, Ian L., Albany, NY, United States
IN
       Raju, Bore G., Fremont, CA, United States
       Biediger, Ronald J., Houston, TX, United States
       Grabbe, Vanessa O., Sugar Land, TX, United States
       Kassir, Jamal, Houston, TX, United States
       Keller, Karin M., Houston, TX, United States
Kogan, deceased, Timothy P., late of Sugar Land, TX, United States by
       Patricia Woodard Kogan, executrix
       Lin, Shuqun, Huntingdon Valley, PA, United States
       Market, Robert V., Pearland, TX, United States
PΑ
       Texas Biotechnology Corporation, Inc., Houston, TX, United States (U.S.
       corporation)
       US 6096773
                                20000801
PΙ
       US 1999-292459
ΑI
                                19990415 (9)
PRAI
       US 1998-82019P
                            19980416 (60)
DΤ
       Utility
FS
       Granted
       Primary Examiner: McKane, Joseph K.; Assistant Examiner: Solola, Taofiq
EXNAM
       Rockey, Milnamow & Katz, Ltd.
LREP
CLMN
       Number of Claims: 10
ECL
       Exemplary Claim: 1
DRWN
       No Drawings
LN.CNT 1469
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       A method for the inhibition of the binding of .alpha..sub.4 .beta..sub.1
AB
       integrin to its receptors, for example VCAM-1 (vascular cell adhesion
       molecule-1) and fibronectin; compounds that inhibit this binding;
       pharmaceutically active compositions comprising such compounds; and the
       use of such compounds either as above, or in formulations for the
       control or prevention of diseases states in which .alpha..sub.4
       .beta..sub.1 is involved.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     247094-59-3
ΙT
        (ovalbumin conjugates; compds. that inhibit binding of integrins to
        receptors such as VCAM-1 and fibronectin)
    ANSWER 7 OF 13 USPATFULL
L50
       2000:27952 USPATFULL
ΑN
       Fibronectin adhesion inhibitors
TΙ
       Dutta, Anand Swaroop, Macclesfield, United Kingdom
IN
       Zeneca Limited, London, United Kingdom (non-U.S. corporation)
PA
                                20000307
       US 6034056
PΙ
       WO 9620216 19960704
       US 1997-8,60248
                                19970624 (8)
AΙ
     - WO 1995-GB2992-
                                19951221
                                19970624
                                          PCT 371 date
                                19970624 PCT 102(e) date
PRAI
                            19941224
       GB 1994-26254
       GB 1995-5905
                            19950324
       GB 1995-13904
                            19950707
DT
       Utility
       Granted
FS
       Primary Examiner: Tsang, Cecilia J.
EXNAM
       Phillsbury Madison & Sutro, LLPIntellectual Property Group
LREP
       Number of Claims: 12
CLMN
ECL
       Exemplary Claim: 1
DRWN
       16 Drawing Figure(s); 22 Drawing Page(s)
LN.CNT 3750
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       Cyclic peptides of formula (1): ##STR1## Wherein: AA1 is an L or D amino
AB
       acid selected from Ile and Leu or amino acid analogue thereof; AA2 is an
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L amino acid selected from Leu or amino acids analogue thereof; AA3 is an L amino acid selected from Asp or amino acid analogue thereof containing a carboxy group in its side chain; AA4 is an L amino acid selected from Val or amino acid analogue thereof and; LINKER represents a linking moiety for linking N terminus of AA1 to C terminus of AA4 to form a cyclic peptide containing a heterocyclic ring having 17 to 30 members. The cyclic peptides inhibit the interaction of vascular cell adhesion molecule-1 and fibronectin with integrin very late antigen 4 and have therapeutic applications such as in rheumatoid arthritis or multiple sclerosis.

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CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     180575-30-8P 180575-31-9P 180575-32-0P
      180575-33-1P
        (prepn. of cyclopeptide fibronectin adhesion inhibitors for treatment
        of rheumatoid arthritis and multiple sclerosis)
L50 ANSWER 8 OF 13 USPATFULL
       1999:163664 USPATFULL
AN
       Inhibitors of leukocyte adhesion
TΙ
       Thorsett, Eugene D., Moss Beach, CA, United States
ΙN
       Yednock, Theodore A., Fairfax, CA, United States
       Pleiss, Michael A., Fremont, CA, United States
       Elan Pharmaceuticals, Inc., South San Francisco, CA, United States (U.S.
PA
       corporation)
       US 6001809
                               19991214
PΙ
ΑI
       US 1995-467580
                               19950606 (8)
       Continuation-in-part of Ser. No. US 1994-273055, filed on 11 Jul 1994,
RLI
       now abandoned
DT
       Utility
       Granted
FS
      Primary Examiner: Tsang, Cecilia J.; Assistant Examiner:
EXNAM
       Delacroix-Muirheid, C.
       Stratford, Carol A., Duvall, Jean M.Burns, Doane, Swecker & Mathis, LLP
LREP
       Number of Claims: 13
CLMN
       Exemplary Claim: 1
ECL
DRWN
       2 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 2132
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       This invention provides peptides which block cellular adhesion mediated
AB
       by VLA-4. The peptides can be used to treat a number of inflammatory
       diseases, in particular, inflammatory brain disorders.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     174962-82-4 174962-83-5
        (anti-inflammatory peptide inhibitors of leukocyte adhesion mediated by
     VLA-4)
L50 ANSWER 9 OF 13 USPATFULL
       1999:92778 USPATFULL
ΑN
       CS-1 peptidomimetics, compositions and methods of using the same
TΙ
       Arrhenius, Thomas S., San Diego, CA, United States
IN
       Elices, Mariano J., San Diego, CA, United States
       Gaeta, Federico C. A., Olivenhain, CA, United States
       Cytel Corporation, San Diego, CA, United States (U.S. corporation)
PΑ
                               19990810
PΙ
       US 5936065
ΑI
       US 1995-462424
                               19950605 (8)
       Continuation-in-part of Ser. No. US 1994-349024, filed on 2 Dec 1994,
RLI
       now abandoned which is a continuation-in-part of Ser. No. US
       1993-164101, filed on 6 Dec 1993, now abandoned
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EXNAM Primary Examiner: Tsang, Cecilia J.; Assistant Examiner: Lukton, David

DT

FS

Utility

Granted

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LREP
       Campbell & Flores LLP
       Number of Claims: 2
CLMN
       Exemplary Claim: 1
ECL
       8 Drawing Figure(s); 7 Drawing Page(s)
DRWN
LN.CNT 3625
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
       The present invention contemplates a compound defined by the following
ΑB
       formula: ##STR1## that inhibits the binding between the VLA-4 and the
       fibronectin CS-1 compound. Pharmaceutical compositions containing a
       contemplated compound and methods for treating immunoinflammatory
       conditions using the compound are also disclosed.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
     126235-03-8 150525-67-0 236100-99-5
      236101-00-1 236101-01-2 236101-02-3
      236101-04-5 236101-05-6
        (fibronectin CS-1 peptidomimetics for inhibiting binding of CS-1 to
        VLA-4 and for treating immunoinflammatory conditions)
   ANSWER 10 OF 13 USPATFULL
AN
       1999:19112 USPATFULL
ΤI
       Cyclic CS-1 peptidomimetics, compositions and methods of using same
       Arrhenius, Thomas S., San Diego, CA, United States
ΙN
       Tempczyk, Anna, San Diego, CA, United States
       Elices, Mariano J., San Diego, CA, United States
       Zheng, Zhong-Li, Lexington, MA, United States
       Cytel Corporation, San Diego, CA, United States (U.S. corporation)
PA
PΙ
       US 5869448
                               19990209
                               19950825 (8)
       US 1995-519109
ΑI
       Continuation-in-part of Ser. No. US 1995-483077, filed on 7 Jun 1995
RLI
       which is a continuation-in-part of Ser. No. US 1994-296241, filed on 25
       Aug 1994, now abandoned
DT
       Utility
       Granted
FS
       Primary Examiner: Russel, Jeffrey E.
EXNAM
       Campbell & Flores LLP
LREP
CLMN
       Number of Claims: 23
ECL
       Exemplary Claim: 1
       1 Drawing Figure(s); 1 Drawing Page(s)
DRWN
LN.CNT 2088
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AΒ
       The present invention contemplates a cyclic peptide that inhibits the
       binding between the VLA-4 receptor expressed on inflammatory leukocytes
       and the fibronectin CS-1 peptide expressed on endothelial cells that are
       involved in immunoinflammatory disease states. Pharmaceutical
       compositions containing a contemplated cyclic peptide and processes for
       treating immunoinflammatory conditions using a binding-inhibitory cyclic
       peptide are also disclosed.
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ΤΤ
     126235-03-8P
        (cyclic peptides inhibiting binding of VLA4 receptor and fibronectin
        CS-1 peptide, compns., and methods of treatment of immunoinflammatory
        conditions)
IT
     107978-77-8
        (cyclic peptides inhibiting binding of VLA4 receptor and fibronectin
        CS-1 peptide, compns., and methods of treatment of immunoinflammatory
        conditions)
L50 ANSWER 11 OF 13 USPATFULL
AN
       1998:115706 USPATFULL
       Cyclic CS-1 peptidomimetics, compositions and methods of using same
ΤI
       Arrhenius, Thomas S., San Diego, CA, United States
IN
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Elices, Mariano J., San Diego, CA, United States Tempczyk, Anna, San Diego, CA, United States Zheng, Zhong-Li, Lexington, MA, United States Cytel Corporation, San Diego, CA, United States (U.S. corporation) PA 19980922 PΙ US 5811391 19950607 (8) AΙ US 1995-483077 Continuation-in-part of Ser. No. US 1994-296241, filed on 25 Aug 1994, RLI now abandoned DT Utility FS Granted Primary Examiner: Russel, Jeffrey E. EXNAM Campbell & Flores LLP LREP Number of Claims: 27 CLMN Exemplary Claim: 1 ECL 1 Drawing Figure(s); 1 Drawing Page(s) DRWN LN.CNT 1919 CAS INDEXING IS AVAILABLE FOR THIS PATENT. The present invention contemplates a cyclic peptide that inhibits the AΒ binding between the VLA-4 receptor expressed on inflammatory leukocytes and the fibronectin CS-1 peptide expressed on endothelial cells that are involved in immunoinflammatory disease states. Pharmaceutical compositions containing a contemplated cyclic peptide and processes for treating immunoinflammatory conditions using a binding-inhibitory cyclic peptide are also disclosed. CAS INDEXING IS AVAILABLE FOR THIS PATENT. TΤ 126235-03-8P (prepn. of cyclic CS-1 peptidomimetics and their compns.) L50 ANSWER 12 OF 13 USPATFULL ΑN 1998:30693 USPATFULL Inhibition of lymphocyte adherence with .alpha.4.beta.1-specific ΤI antibodies Wayner, Elizabeth A., St. Paul, MN, United States ΤN Fred Hutchinson Cancer Research Center, Seattle, WA, United States (U.S. PΑ corporation) PΤ US 5730978 19980324 AΙ US 1994-338282 19941114 (8) Continuation of Ser. No. US 1991-814873, filed on 24 Dec 1991, now RLI abandoned which is a continuation-in-part of Ser. No. US 1989-402389, filed on 1 Sep 1989, now abandoned Utility DT Granted FS Primary Examiner: Feisee, Lila; Assistant Examiner: Gambel, Phillip EXNAM Townsend and Townsend and Crew LLP LREP CLMN Number of Claims: 9 Exemplary Claim: 1 ECL 31 Drawing Figure(s); 17 Drawing Page(s) DRWN LN.CNT 2876 CAS INDEXING IS AVAILABLE FOR THIS PATENT. The present invention relates to a method for inhibiting the adhesion of AB one cell to another comprising interfering with the interaction between the extracellular matrix receptor and its ligand. The invention is based upon the discovery that the .alpha.4.beta.1 extracellular matrix receptor promotes adhesion of lymphocytes to endothelial cells via attachment to a defined peptide sequence. Prior to the present invention, the ligand of the .alpha.4.beta.1 receptor had

extracellular matrix receptor promotes adhesion of lymphocytes to endothelial cells via attachment to a defined peptide sequence. Prior to the present invention, the ligand of the .alpha.4.beta.1 receptor had not been identified, nor had the function of the .alpha.4.beta.1 receptor in lymphocyte attachment been known. By preventing the interaction between the .alpha.4.beta.1 receptor and its ligands using antibodies or defined peptide sequences, the present invention enables, for the first time, specific intervention in the migration of

lymphocytes through the vascular endothelium and into tissues. The present invention, therefore, has particular clinical utility in suppression of the immune response; in various specific embodiments of the invention, the adherence of lymphocytes to endothelium may be inhibited systemically, or may, alternatively, be localized to particular tissues or circumscribed areas. Accordingly, the present invention provides for treatment of diseases involving autoimmune responses as well as other chronic or relapsing activations of the immune system, including allergy, asthma, and chronic inflammatory skin conditions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 136466-51-8

(binding of, or fragment or homologous sequence of, to .alpha.4.beta.1 extracellular matrix receptor for inhibition of lymphocyte adhesion to endothelial cell)

IT 126235-03-8 128701-34-8

(fibronectin-derived peptide, effect of, on lymphocyte adhesion to endothelial cell, .alpha.4.beta.1 extracellular matrix receptor in relation to)

L50 ANSWER 13 OF 13 USPATFULL

AN 96:34108 USPATFULL

TI Process to inhibit binding of the integrin .alpha..sub.4 62 .sub.1 to VCAM-1 or fibronectin and linear peptides therefor

IN Kogan, Timothy P., Sugar Land, TX, United States Ren, Kaijun, Sugar Land, TX, United States Vanderslice, Peter, Houston, TX, United States Beck, Pamela J., Houston, TX, United States

PA Texas Biotechnology Corporation, Houston, TX, United States (U.S.

corporation)

PI US 5510332 19960423

AI US 1994-271830 19940707 (8)

DT Utility

FS Granted

EXNAM Primary Examiner: Chan, Christina Y.; Assistant Examiner: Prickril, Benet

LREP Dressler, Goldsmith, Shore & Milnamow, Ltd.

CLMN Number of Claims: 15

ECL Exemplary Claim: 1,5

DRWN No Drawings

LN.CNT 1344

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

The present invention is directed to an isolated and purified peptide comprising the LDV domain of the CSI peptide sequence or single amino acid substitutent analog thereof. A preferred peptide has the amino acid residue sequences shown in SEQ ID NOS:8-14, 17-23, 25, 28, and 51. The present invention is further directed to a process of inhibiting the binding of .alpha..sub.4 .beta..sub.1 integrin to a protein such as VCAM-1 or fibronectin comprising exposing a cell that expresses .alpha..sub.4 .beta..sub.1 integrin to the protein in the presence of an effective inhibiting amount of such a peptide. The present invention is still further directed to a pharmaceutical composition comprising a peptide of SEQ ID NO:8-102.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

1T 159680-18-9DP, conjugates with polyethylene glycol
176955-06-9DP, conjugates with polyethylene glycol
(inhibition of binding of integrin .alpha.4.beta.1 to VCAM-1 or
fibronectin with fibronectin CS1 domain peptide analog inhibitors)

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1 S L30 AND RESPIRATORY DISTRESS SYNDROME

24 S L29, L31

L31 L32

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L33
              3 S L12 AND HYPERSENSITIV?
L34
              3 S L12 AND ?ALLERG?
L35
             5 S L33, L34
L36
             1 S L35 AND L32
             4 S L35 NOT L32
L37
             24 S L32, L36
L38
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L39
              1 S L39 AND L13, L18
L40
             19 S-L38 NOT L39
L41
                SEL DN 18
              1 S E1 AND L41
L42
              2 S L40, L42
L43
              4 S L11, L20 NOT L43
L44
                SEL HIT RN L43
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L45
              9 S L45 AND L1-L3
L46
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L47
             53 S L1, L3
             13 S L47 AND ?ASTHMA?
L48
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L55
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L56
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